



IES INDOOR REPORT

PHOTOMETRIC FILENAME : VF1-L20-750-WF-XX-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM ATAL009592-R3
 [TESTLAB]ATAL-LABS
 [ISSUE]DATE]23 NOV, 2022
 [MANUFAC]WILLIAMS OUTDOOR
 [OTHER]H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT]VF1-L20-750-WF-xx-DIM-UNV
 [LUMINAIRE]VOLTAIRE SMALL ARCHITECTURAL FLOOD LIGHT WITH WIDE
 [MORE]FLOOD MOLDED REFRACTIVE CLEAR ACRYLIC LENS AND A CLEAR GLASS
 [MORE]LENS.
 [LAMPCAT]X16-LUXEON TX 4000K LEDS
 [LAMP](16) LUXEON TX 4000K LEDS
 [BALLASTCAT]X1-EUC-018S035DSP
 [BALLAST](1) INVENTRONICS ELECTRONIC DRIVER
 [OTHER]INPUT WATTS: 19, AMPS: 0.1506, VAC: 120.02, TEMP: 25.4 C
 [_SEARCH_SOURCE]TYPE] LED
 [_SEARCH_APPLICATION] Outdoor, Architectural, Facade, Landscape, Parking, Site, Flood, Wet Location
 [_SEARCH_MOUNTING] Arm, Ground, Pole, Post Top, Wall
 [_SEARCH_CERTIFICATION] DLC
 [_SEARCH_CLASSIFICATION] IP66

Note: Candela values converted from Type-B to Type-C

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2081
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	19
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.96
Spacing Criterion (90-270)	2.06
Spacing Criterion (Diagonal)	1.76
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.00 ft
Luminous Width (90-270)	1.00 ft
Luminous Height	0.00 ft

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10348	11703	11924
55	4787	5734	5005
65	2045	1816	2078
75	1239	1230	1346
85	0	440	160

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CANDELA TABULATION

	<u>0.0</u>	<u>2.5</u>	<u>5.0</u>	<u>7.5</u>	<u>10.0</u>	<u>12.5</u>	<u>15.0</u>	<u>17.5</u>	<u>20.0</u>	<u>22.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	522.612	522.614	522.618	522.626	522.637	522.650	522.667	522.687	522.710	522.735
5.0	522.288	522.288	522.288	522.288	522.288	522.288	522.635	522.863	523.068	523.245
7.5	532.332	532.282	532.131	531.880	531.916	531.881	531.743	531.503	530.788	530.972
10.0	553.392	553.017	552.464	552.582	552.842	552.841	552.558	551.971	552.319	552.369
12.5	588.060	587.694	586.960	587.995	588.374	588.355	588.561	589.245	589.453	589.174
15.0	635.040	634.775	635.112	636.258	636.821	637.127	637.615	637.677	636.886	639.929
17.5	689.731	687.639	687.549	688.151	688.155	689.450	690.262	690.926	692.849	694.291
20.0	734.832	733.811	734.538	735.551	737.016	738.867	738.887	738.832	738.654	738.988
22.5	747.792	747.684	747.404	747.027	747.201	747.574	747.905	748.608	749.781	751.481
25.0	742.392	742.437	743.152	743.821	744.267	744.816	745.313	745.804	746.248	746.652
27.5	736.128	736.229	736.744	737.279	737.743	738.536	739.482	739.795	740.053	740.178
30.0	731.592	731.607	731.653	731.824	732.037	732.974	733.546	733.905	734.607	735.248
32.5	729.972	729.988	730.036	730.659	731.641	733.177	733.956	734.496	735.136	736.158
35.0	746.352	746.138	745.495	744.932	744.522	744.224	743.346	742.178	741.110	741.597
37.5	767.232	767.012	766.351	765.302	764.580	764.384	764.441	763.541	763.393	763.478
40.0	774.360	774.283	773.857	772.078	771.679	771.889	772.821	774.365	777.994	783.439
42.5	781.488	781.411	780.464	777.092	775.766	773.252	772.133	772.332	774.056	778.086
45.0	680.400	680.862	683.325	686.273	692.949	699.073	709.182	721.002	736.831	759.638
47.5	579.312	579.122	581.548	585.004	590.904	596.407	604.846	610.223	614.853	628.743
50.0	471.312	471.286	471.666	474.118	480.016	488.770	496.737	494.347	490.030	493.601
52.5	363.312	363.198	361.156	361.781	367.928	381.065	385.566	377.803	377.155	382.726
55.0	255.312	254.939	250.403	249.043	256.502	275.124	271.557	262.331	266.046	271.083
57.5	211.572	210.713	205.775	202.169	205.376	217.879	201.432	186.736	182.683	171.564
60.0	167.832	167.272	164.215	162.295	165.767	176.143	160.921	153.162	150.839	142.333
62.5	124.092	123.943	122.873	122.683	125.878	133.214	124.180	121.089	119.908	115.794
65.0	80.352	80.713	81.724	83.305	85.734	89.014	88.990	89.814	90.752	90.884
67.5	67.716	68.024	68.675	68.621	69.292	69.846	69.569	69.523	69.847	70.477
70.0	55.080	55.604	56.617	55.882	56.513	56.857	56.660	56.596	57.057	57.239
72.5	42.444	43.194	44.577	43.160	43.723	43.865	43.811	43.654	44.316	43.810
75.0	29.808	30.793	32.552	30.432	30.924	30.871	31.012	30.702	31.615	30.223
77.5	22.356	23.092	24.691	22.978	23.326	23.198	23.137	22.503	22.967	20.822
80.0	14.904	15.406	16.915	15.793	16.249	16.403	16.447	16.073	16.316	14.901
82.5	7.452	7.713	9.132	8.606	9.187	9.644	9.750	9.633	9.794	9.123
85.0	0.000	0.015	1.343	1.418	2.133	2.909	3.047	3.186	3.360	3.446
87.5	0.000	0.000	0.649	0.654	0.984	1.327	1.342	1.359	1.379	1.403
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>25.0</u>	<u>27.5</u>	<u>30.0</u>	<u>32.5</u>	<u>35.0</u>	<u>37.5</u>	<u>40.0</u>	<u>42.5</u>	<u>45.0</u>	<u>47.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	522.764	522.834	522.896	522.964	523.038	523.118	523.204	523.295	523.392	523.495
5.0	523.392	523.505	523.582	523.619	523.617	523.546	524.055	524.400	524.716	525.001
7.5	531.441	532.226	532.882	533.402	533.782	534.017	534.104	533.828	534.912	535.083
10.0	551.098	552.080	552.336	554.017	555.356	556.246	556.674	556.632	555.729	558.518
12.5	589.655	590.900	592.155	593.344	594.431	596.176	597.446	598.237	598.904	600.895
15.0	641.637	642.855	643.558	646.588	648.006	648.020	651.489	653.399	655.320	656.902
17.5	695.968	698.190	700.134	702.231	704.684	707.099	709.568	711.167	714.704	716.748
20.0	740.352	742.234	745.756	750.280	751.790	753.184	756.586	760.128	761.291	764.387
22.5	753.355	754.953	757.251	757.370	759.093	761.623	764.423	768.584	768.459	770.345
25.0	746.470	746.118	746.278	746.818	747.100	746.913	746.739	748.415	750.480	751.376
27.5	740.500	740.953	740.896	740.509	740.016	740.128	740.930	741.353	741.357	741.883
30.0	736.560	737.724	738.730	739.552	740.016	740.016	740.016	740.265	741.183	742.373

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CANDELA TABULATION - (Cont.)

32.5	736.920	736.943	736.620	737.868	739.360	740.264	741.646	742.924	743.887	745.837
35.0	743.806	745.313	746.127	746.258	745.343	744.954	748.276	750.836	753.976	755.649
37.5	763.221	762.566	761.841	761.383	762.951	764.044	765.106	767.321	770.292	773.065
40.0	786.536	785.581	784.502	782.926	782.094	782.931	785.991	787.470	788.165	791.255
42.5	782.557	785.930	790.909	796.827	796.084	791.801	791.316	792.111	799.774	796.905
45.0	772.003	769.189	764.165	762.880	765.510	773.277	777.691	773.301	769.489	773.602
47.5	648.489	669.438	686.915	712.146	714.913	705.411	701.827	704.058	711.521	712.677
50.0	506.541	516.875	528.908	549.262	570.251	584.491	603.771	594.521	596.382	598.296
52.5	391.258	388.116	386.392	384.832	379.665	386.683	420.944	448.286	462.081	461.723
55.0	275.688	279.012	282.415	279.794	260.228	250.336	259.279	289.517	305.834	317.256
57.5	165.620	174.702	183.210	186.179	180.214	187.868	196.499	190.628	177.406	187.628
60.0	136.968	131.145	124.636	119.381	117.374	127.036	134.588	134.607	129.125	126.682
62.5	113.292	109.768	105.661	101.508	97.985	94.600	91.204	89.584	93.045	93.749
65.0	91.185	90.005	87.718	84.833	82.299	79.584	76.734	73.786	71.385	68.317
67.5	71.241	71.694	70.712	69.145	67.360	65.336	63.076	61.364	59.882	58.097
70.0	57.327	57.349	56.084	54.920	53.639	51.941	50.166	50.029	49.613	48.940
72.5	43.371	43.043	42.171	41.844	41.457	40.502	39.477	39.625	39.978	39.985
75.0	29.383	28.947	28.491	29.237	29.716	29.604	29.375	29.382	29.614	29.978
77.5	19.315	18.068	17.068	17.708	18.373	19.161	19.290	19.148	19.547	20.322
80.0	13.966	12.989	12.318	13.072	13.307	13.199	12.581	11.673	11.414	11.513
82.5	8.722	7.969	7.583	8.453	8.538	8.281	7.913	7.451	7.477	7.628
85.0	3.551	2.998	2.852	3.839	3.765	3.355	3.380	3.385	3.569	3.777
87.5	1.430	1.049	0.929	1.434	1.237	0.824	0.846	0.878	0.916	0.958
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert.
Angles**

Horizontal Angles

	<u>50.0</u>	<u>52.5</u>	<u>55.0</u>	<u>57.5</u>	<u>60.0</u>	<u>62.5</u>	<u>65.0</u>	<u>67.5</u>	<u>70.0</u>	<u>72.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	523.603	523.716	523.834	523.956	524.082	524.211	524.404	524.488	524.645	524.802
5.0	525.255	525.414	525.953	526.504	527.022	527.505	527.953	528.367	528.748	529.096
7.5	536.335	537.291	538.085	538.718	539.194	539.514	539.683	540.004	540.432	541.998
10.0	560.700	562.446	563.756	564.634	564.852	566.005	566.074	568.419	569.515	570.144
12.5	602.969	604.364	605.082	606.136	607.918	608.115	611.239	612.798	614.825	616.364
15.0	658.582	659.680	660.885	662.239	663.046	663.948	667.637	670.306	672.310	674.903
17.5	718.642	720.771	722.969	725.247	725.387	729.045	731.046	733.416	737.054	740.486
20.0	767.921	767.659	768.716	771.666	772.496	771.901	772.720	774.418	776.916	780.627
22.5	774.006	772.803	773.686	774.957	777.795	779.651	779.162	779.651	780.726	783.379
25.0	751.441	752.470	755.064	757.992	759.546	760.467	761.471	764.756	767.625	770.066
27.5	743.594	744.370	745.203	747.997	750.888	753.309	755.429	756.890	758.319	760.342
30.0	743.532	745.429	747.145	749.079	751.410	753.909	756.753	759.041	760.541	762.135
32.5	747.267	749.225	751.775	754.498	757.087	759.222	761.437	764.977	767.627	769.794
35.0	758.041	760.260	762.432	764.166	766.473	769.804	772.592	775.331	777.517	779.911
37.5	775.022	776.597	777.937	779.359	781.693	783.522	785.098	787.290	790.521	793.969
40.0	792.793	792.035	793.643	795.503	793.214	792.819	794.469	797.950	802.391	804.324
42.5	796.091	800.519	797.189	793.320	793.160	795.311	795.644	790.918	790.693	793.288
45.0	786.062	775.441	771.861	773.527	773.651	764.240	759.605	760.175	766.378	775.784
47.5	708.507	716.619	721.923	710.775	703.397	699.762	705.182	705.839	700.637	700.720
50.0	605.043	609.634	608.502	608.798	603.807	600.617	553.074	537.131	603.598	612.746
52.5	466.660	469.655	468.065	471.360	467.649	428.570	382.219	322.409	398.477	480.975
55.0	331.350	334.985	333.825	323.740	309.764	279.777	246.777	245.447	241.678	320.516
57.5	209.116	219.108	219.870	211.442	189.270	183.907	189.490	187.850	184.320	184.800
60.0	120.939	130.363	137.968	126.742	128.052	135.736	138.400	135.329	129.197	132.974
62.5	91.675	91.077	87.712	90.782	96.647	101.786	102.291	95.752	99.142	107.099
65.0	69.980	71.467	70.930	72.598	75.198	79.659	81.596	82.048	83.671	86.311
67.5	57.632	57.275	58.284	60.102	61.766	63.334	66.394	69.792	70.652	71.919

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70.0	48.478	48.188	48.310	48.788	50.093	51.208	52.724	55.281	58.207	59.474
72.5	39.539	39.159	39.046	39.271	39.563	39.292	40.089	42.050	44.939	47.018
75.0	30.174	29.954	29.735	29.671	29.559	29.330	29.028	28.642	31.147	33.970
77.5	20.705	20.615	20.514	20.428	20.266	19.888	19.664	19.310	19.803	21.283
80.0	11.448	11.514	11.563	11.911	12.350	12.387	11.913	11.091	12.003	12.756
82.5	7.241	6.591	5.786	5.446	5.299	5.852	6.223	6.360	6.478	6.361
85.0	3.722	3.555	3.279	3.261	3.259	3.214	3.112	2.934	2.651	2.638
87.5	1.007	1.063	1.128	1.204	1.296	1.427	1.532	1.594	1.600	1.522
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>75.0</u>	<u>77.5</u>	<u>80.0</u>	<u>82.5</u>	<u>85.0</u>	<u>87.5</u>	<u>90.0</u>	<u>92.5</u>	<u>95.0</u>	<u>97.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	524.958	525.112	525.264	525.415	525.563	525.709	525.852	526.098	526.339	526.574
5.0	529.412	529.756	530.035	530.401	530.744	531.064	531.360	531.914	532.443	532.945
7.5	542.952	543.763	544.428	544.983	546.102	547.066	547.884	548.667	549.309	549.849
10.0	572.137	573.782	575.089	576.062	576.900	577.937	578.664	579.368	579.775	580.803
12.5	617.413	618.787	620.606	621.944	622.798	623.605	624.024	625.041	625.926	627.814
15.0	677.592	679.587	681.573	683.438	684.501	685.630	686.880	688.227	689.678	691.226
17.5	744.074	745.661	748.338	750.583	752.590	754.190	755.568	756.035	757.691	759.392
20.0	784.486	788.610	790.163	792.100	794.609	796.898	798.120	798.285	800.555	803.088
22.5	786.374	790.595	794.053	797.810	799.933	802.175	803.520	804.803	806.028	807.236
25.0	772.345	775.103	777.505	779.344	780.646	781.680	783.000	783.562	785.127	787.113
27.5	762.890	765.744	768.858	771.703	773.992	775.130	776.674	777.120	778.952	780.694
30.0	763.871	766.561	769.366	772.347	775.326	776.563	778.248	779.320	781.780	784.151
32.5	772.047	774.602	777.330	780.243	783.057	784.556	786.348	788.509	791.318	794.573
35.0	783.112	786.490	790.307	794.430	798.040	800.312	802.368	805.199	807.599	810.406
37.5	797.908	802.417	807.096	811.550	815.502	818.177	820.368	823.841	825.975	828.323
40.0	804.739	806.925	810.490	814.308	817.690	820.558	822.960	826.289	828.943	831.396
42.5	796.787	801.852	807.819	814.111	818.505	822.542	825.552	828.480	830.381	830.937
45.0	773.075	770.938	771.944	774.993	778.779	781.907	784.080	786.638	789.916	792.223
47.5	704.780	710.912	718.353	725.517	734.122	740.238	742.608	743.637	744.756	742.794
50.0	620.567	613.247	604.188	595.250	589.514	586.861	584.064	589.866	598.943	609.899
52.5	477.381	467.172	455.306	443.671	435.189	430.748	425.520	433.266	442.568	454.518
55.0	337.603	325.653	308.779	293.324	282.062	274.974	266.976	276.675	286.237	300.624
57.5	197.400	206.992	214.117	218.463	222.023	224.276	220.644	225.710	225.642	224.107
60.0	143.735	162.252	172.222	174.518	176.374	177.169	174.312	178.265	179.141	179.310
62.5	115.077	121.868	133.069	132.497	131.321	130.327	127.980	130.966	133.160	135.963
65.0	91.175	94.634	96.783	93.088	87.316	83.595	81.648	83.848	88.584	94.918
67.5	73.105	72.920	71.471	70.110	69.249	69.482	69.336	69.983	70.861	71.232
70.0	60.000	59.242	59.245	58.313	57.188	57.147	57.024	57.759	58.906	59.068
72.5	47.790	47.620	46.486	46.630	45.842	45.213	44.712	45.408	46.254	46.625
75.0	35.247	35.793	35.264	34.468	34.174	33.366	32.400	33.370	34.277	34.643
77.5	23.137	23.733	23.850	23.106	24.667	25.316	24.624	25.382	24.667	23.883
80.0	13.131	13.413	13.998	16.257	16.919	17.108	16.848	17.488	17.103	16.257
82.5	6.515	6.894	7.950	9.012	10.005	9.750	9.072	9.750	10.005	9.012
85.0	2.606	2.831	3.452	4.169	4.126	2.778	1.296	2.800	4.126	3.710
87.5	1.320	1.296	1.296	1.559	1.498	0.916	0.648	0.916	1.485	1.559
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>100.0</u>	<u>102.5</u>	<u>105.0</u>	<u>107.5</u>	<u>110.0</u>	<u>112.5</u>	<u>115.0</u>	<u>117.5</u>	<u>120.0</u>	<u>122.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	526.802	527.021	527.229	527.427	527.611	527.873	527.964	528.155	528.335	528.504

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CANDELA TABULATION - (Cont.)

5.0	533.419	533.916	534.456	534.955	535.412	535.823	536.186	536.499	536.760	536.968
7.5	550.605	551.262	551.753	552.072	551.752	552.466	553.240	554.162	554.929	555.536
10.0	581.847	582.555	582.916	583.044	584.090	584.703	583.939	585.398	586.052	587.851
12.5	629.172	629.983	631.339	633.080	634.210	634.716	636.153	636.169	639.100	640.075
15.0	692.031	693.517	695.698	697.069	698.382	700.237	701.458	702.176	703.460	704.979
17.5	760.908	762.597	765.511	766.682	768.027	768.961	770.619	772.623	773.712	775.789
20.0	806.782	811.318	811.982	812.168	812.772	813.761	816.069	818.053	821.074	823.283
22.5	808.270	809.828	811.797	814.184	815.397	817.983	819.179	821.418	822.351	822.549
25.0	789.460	792.557	796.120	797.832	798.835	798.159	796.655	798.326	800.381	801.480
27.5	782.370	784.504	785.861	786.448	786.572	787.789	789.738	790.672	790.709	790.270
30.0	786.661	789.133	790.680	792.381	793.436	793.779	794.397	795.298	795.025	795.265
32.5	798.272	801.101	802.834	803.725	803.704	803.316	802.998	803.400	804.180	804.772
35.0	813.640	815.199	815.947	816.445	816.539	815.832	816.198	816.840	817.295	817.956
37.5	829.992	830.365	829.877	829.976	828.790	828.581	830.415	833.011	833.829	834.748
40.0	833.191	834.294	836.155	839.112	839.730	838.419	839.201	840.915	844.531	848.107
42.5	830.427	829.048	827.284	825.772	825.774	829.832	837.992	840.247	838.579	839.606
45.0	793.817	796.448	800.649	805.568	798.832	795.661	797.726	802.471	811.728	811.937
47.5	737.863	733.137	728.974	727.177	729.817	737.314	736.852	731.474	734.936	740.516
50.0	620.401	631.953	640.944	635.977	630.251	556.270	573.559	625.371	629.038	632.093
52.5	467.963	481.704	493.882	503.744	411.144	325.538	392.765	444.172	484.243	492.311
55.0	317.474	335.758	353.400	341.222	245.397	249.941	252.062	289.104	323.157	340.369
57.5	219.997	213.250	221.907	193.616	190.653	193.354	195.217	190.703	197.293	218.070
60.0	176.875	172.476	157.934	140.782	135.290	139.782	143.311	140.075	130.053	126.712
62.5	136.505	134.977	120.486	112.274	102.387	98.684	104.126	101.430	94.796	87.923
65.0	99.843	98.154	94.895	88.450	85.620	82.576	79.381	76.319	70.900	69.106
67.5	71.471	74.131	74.256	72.895	70.875	68.011	62.690	58.464	58.387	58.102
70.0	59.241	59.974	60.000	59.534	57.059	52.008	49.230	48.500	48.343	48.013
72.5	47.724	47.620	47.790	46.452	42.089	39.832	38.666	38.443	38.714	38.706
75.0	35.236	35.793	34.772	32.112	30.089	28.405	28.863	29.179	29.376	29.487
77.5	23.850	23.488	22.097	20.594	19.867	19.872	20.254	20.452	20.721	20.803
80.0	13.998	12.754	12.315	12.716	12.651	12.324	13.030	13.367	13.274	12.844
82.5	7.262	6.113	6.486	6.879	7.295	7.482	7.488	7.108	6.563	6.582
85.0	3.312	2.831	2.709	3.050	3.328	3.753	3.980	3.956	3.897	3.811
87.5	1.296	1.296	1.332	1.635	1.751	1.744	1.648	1.479	1.294	1.204
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>125.0</u>	<u>127.5</u>	<u>130.0</u>	<u>132.5</u>	<u>135.0</u>	<u>137.5</u>	<u>140.0</u>	<u>142.5</u>	<u>145.0</u>	<u>147.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	528.660	528.805	528.936	529.056	529.162	529.255	529.336	529.402	529.455	529.495
5.0	537.122	537.346	537.828	538.237	538.573	538.833	539.019	538.983	539.428	539.742
7.5	555.980	556.259	556.371	556.691	557.536	557.736	559.098	559.943	560.533	560.872
10.0	589.219	590.148	590.632	590.668	589.910	591.969	592.996	593.417	593.242	592.485
12.5	641.021	641.849	641.985	641.429	642.606	642.234	642.903	642.917	642.281	641.880
15.0	705.858	706.888	708.119	708.798	708.797	708.340	707.946	705.699	707.178	706.758
17.5	776.116	776.408	776.461	777.252	778.283	779.147	779.316	778.959	778.772	779.067
20.0	822.838	824.815	828.217	826.906	826.483	828.780	826.847	825.269	826.038	826.629
22.5	823.886	825.484	829.440	827.771	828.099	830.779	827.898	826.884	826.683	827.339
25.0	800.905	800.422	801.025	802.776	803.014	802.187	802.446	804.124	805.293	805.040
27.5	790.874	792.468	793.208	792.455	793.192	794.142	793.909	793.152	793.501	794.246
30.0	796.202	796.968	797.231	797.517	797.396	797.147	797.135	796.897	796.389	796.626
32.5	805.013	805.399	805.808	805.349	804.371	804.106	804.295	804.669	805.376	805.804
35.0	818.961	818.969	817.987	816.665	816.843	816.658	816.707	816.189	818.107	821.329
37.5	834.370	834.807	834.241	833.815	833.420	833.162	833.681	835.292	837.338	840.470
40.0	847.244	846.368	848.859	848.356	845.999	847.564	849.558	849.375	850.675	853.941

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CANDELA TABULATION - (Cont.)

42.5	844.173	848.177	842.826	843.923	848.271	843.033	844.732	847.798	854.945	855.850
45.0	809.610	811.252	820.124	809.225	807.364	813.710	820.335	805.866	788.908	778.107
47.5	748.786	742.537	734.299	737.500	737.714	722.495	709.160	698.283	693.465	686.293
50.0	630.412	630.482	624.079	611.177	598.817	586.356	581.507	562.037	549.695	535.935
52.5	488.003	485.972	477.711	463.069	451.625	437.682	413.122	382.455	378.503	386.381
55.0	347.123	342.618	332.117	320.008	306.824	291.986	263.881	255.547	264.463	283.282
57.5	223.315	221.234	211.889	192.443	183.569	196.131	201.537	192.409	184.601	190.897
60.0	137.646	130.220	122.082	129.563	133.126	138.309	138.044	130.446	121.051	123.809
62.5	84.639	89.800	91.549	94.779	94.680	91.226	92.955	96.399	100.032	103.877
65.0	68.724	70.584	69.834	68.410	71.754	74.337	77.221	79.803	82.662	85.533
67.5	57.560	57.268	57.493	57.684	59.519	61.064	62.563	64.247	66.038	68.202
70.0	47.948	48.117	48.271	48.308	48.657	49.000	48.887	49.948	51.442	53.625
72.5	38.791	39.091	39.409	39.211	38.805	38.454	38.202	39.012	39.898	41.123
75.0	29.650	30.008	30.183	29.619	28.955	28.508	28.209	28.423	28.839	29.119
77.5	20.889	20.896	20.799	20.202	19.307	18.659	18.309	18.126	18.041	18.149
80.0	12.421	12.107	11.694	11.513	11.414	11.531	12.086	12.640	13.135	13.413
82.5	6.718	7.134	7.459	7.628	7.477	7.449	7.951	8.419	8.621	8.716
85.0	3.735	3.814	3.828	3.777	3.569	3.418	3.864	4.280	4.180	4.046
87.5	1.128	1.063	1.007	0.958	0.916	0.887	1.276	1.633	1.582	1.536
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>150.0</u>	<u>152.5</u>	<u>155.0</u>	<u>157.5</u>	<u>160.0</u>	<u>162.5</u>	<u>165.0</u>	<u>167.5</u>	<u>170.0</u>	<u>172.5</u>
0.0	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880	524.880
2.5	529.520	529.532	529.458	529.571	529.674	529.764	529.843	529.911	529.966	530.009
5.0	539.994	540.182	540.308	540.373	540.378	540.325	540.216	539.897	540.604	540.883
7.5	560.963	560.815	560.434	560.902	560.887	561.434	561.823	562.054	562.128	562.120
10.0	591.252	591.306	591.546	591.985	592.014	591.675	592.639	593.282	593.612	593.636
12.5	641.166	640.424	639.771	639.785	640.407	640.418	639.829	639.958	640.382	640.239
15.0	705.702	705.464	705.957	705.538	703.280	704.354	704.068	703.037	702.913	702.893
17.5	778.144	776.925	775.942	775.289	774.630	773.677	775.769	773.478	772.006	771.832
20.0	823.252	821.198	819.641	818.533	818.017	817.517	816.984	817.656	816.350	815.196
22.5	828.412	825.171	823.106	820.948	819.536	818.897	818.665	819.265	820.218	821.357
25.0	803.131	800.436	801.837	802.655	802.713	802.478	801.967	801.609	801.386	801.478
27.5	794.605	793.717	791.659	790.615	790.943	792.259	793.300	794.388	795.252	796.123
30.0	797.367	798.665	799.183	799.143	799.111	798.946	799.441	800.023	800.261	800.961
32.5	805.602	808.071	811.345	812.664	813.303	813.438	813.757	813.842	813.537	813.510
35.0	823.968	825.784	827.977	829.465	829.919	830.177	830.390	830.699	830.896	831.074
37.5	842.070	843.884	845.263	847.318	848.530	849.197	849.506	849.850	850.238	850.635
40.0	857.765	860.595	862.511	856.741	846.155	837.184	828.828	821.778	816.464	812.961
42.5	840.607	827.523	817.910	805.388	795.617	789.054	782.607	776.001	771.406	768.960
45.0	766.434	760.051	760.966	747.439	727.777	713.982	704.030	693.701	688.004	683.072
47.5	666.356	648.985	638.637	629.062	617.126	607.424	602.523	596.111	594.903	592.351
50.0	523.230	511.525	505.844	505.002	502.104	497.395	496.329	489.217	484.227	480.961
52.5	389.152	390.192	391.384	389.344	386.246	384.136	387.295	381.126	370.809	367.115
55.0	286.462	283.580	279.382	276.063	272.161	269.217	276.418	275.101	258.201	253.046
57.5	188.808	180.809	172.007	177.058	186.261	191.630	207.319	217.452	205.992	204.877
60.0	129.833	135.865	141.290	146.376	153.103	155.876	165.570	175.058	165.535	163.702
62.5	108.275	112.082	115.227	117.836	120.950	122.033	126.152	131.417	125.031	122.788
65.0	88.125	89.891	90.613	90.692	90.331	89.147	88.407	86.827	84.482	82.107
67.5	69.249	68.902	68.706	68.704	68.619	68.338	68.273	67.601	67.595	67.001
70.0	54.918	55.207	55.139	55.501	55.910	55.676	55.364	54.741	54.472	53.959
72.5	41.881	41.513	41.533	42.197	43.175	43.082	42.515	41.864	41.393	40.910
75.0	29.139	28.082	27.897	28.816	30.417	30.543	29.716	28.971	28.351	27.856
77.5	18.293	17.810	18.181	19.722	21.895	22.503	22.110	21.783	21.520	21.317

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CANDELA TABULATION - (Cont.)

80.0	13.452	13.110	13.187	14.148	15.586	16.009	15.754	15.489	15.276	15.112
82.5	8.647	8.392	8.299	8.720	9.409	9.582	9.392	9.191	9.030	8.906
85.0	3.865	3.659	3.484	3.393	3.319	3.181	3.024	2.889	2.592	2.592
87.5	1.496	1.461	1.430	1.403	1.379	1.359	1.342	1.327	1.316	1.307
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>175.0</u>	<u>177.5</u>	<u>180.0</u>
0.0	524.880	524.880	524.880
2.5	530.039	530.058	530.064
5.0	541.164	541.446	541.728
7.5	562.928	563.583	564.084
10.0	593.915	595.174	596.160
12.5	639.269	641.618	643.788
15.0	703.569	703.805	706.320
17.5	771.108	771.126	773.194
20.0	814.081	813.300	814.104
22.5	822.369	822.904	821.664
25.0	801.826	802.611	801.144
27.5	796.860	797.517	797.040
30.0	801.514	802.062	802.224
32.5	813.743	814.863	815.184
35.0	831.285	832.402	833.328
37.5	850.652	851.472	852.768
40.0	810.549	808.270	806.112
42.5	767.564	764.237	759.456
45.0	680.362	677.321	672.624
47.5	590.938	588.384	585.792
50.0	479.117	477.967	477.360
52.5	366.202	366.239	368.928
55.0	253.212	253.275	260.496
57.5	207.646	209.920	214.812
60.0	165.117	166.194	169.128
62.5	122.729	122.538	123.444
65.0	79.056	78.580	77.760
67.5	66.497	65.860	65.124
70.0	53.501	53.015	52.488
72.5	40.501	40.157	39.852
75.0	27.216	27.216	27.216
77.5	21.155	20.766	20.736
80.0	14.972	14.280	14.256
82.5	8.797	7.794	7.776
85.0	2.580	1.296	1.296
87.5	1.299	0.649	0.648
90.0	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	248.52	N.A.	11.90
0-30	609.34	N.A.	29.30
0-40	1107.7	N.A.	53.20
0-60	1953.31	N.A.	93.90
0-80	2075.73	N.A.	99.70
0-90	2080.96	N.A.	100.00
10-90	2028.84	N.A.	97.50
20-40	859.18	N.A.	41.30
20-50	1426.23	N.A.	68.50
40-70	934.44	N.A.	44.90
60-80	122.42	N.A.	5.90
70-80	33.59	N.A.	1.60
80-90	5.23	N.A.	0.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2080.96	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	52.11
10-20	196.41
20-30	360.81
30-40	498.37
40-50	567.06
50-60	278.55
60-70	88.83
70-80	33.59
80-90	5.23
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	134	134	134	134	131	131	131	131	125	125	125	120	120	120	115	115	115	112
1	125	120	117	113	122	118	114	111	113	110	108	109	107	105	105	103	101	99
2	115	107	101	96	112	105	99	94	101	97	92	98	94	90	95	91	88	86
3	106	96	88	81	103	94	87	81	91	85	79	88	82	78	85	81	77	74
4	98	86	77	70	95	84	76	70	81	74	69	79	73	68	77	71	67	65
5	90	77	68	61	88	76	67	60	73	66	60	71	64	59	69	63	59	56
6	83	69	60	53	81	68	59	53	66	58	52	64	57	52	63	56	52	49
7	77	63	53	47	75	62	53	47	60	52	46	58	51	46	57	51	46	44
8	71	57	48	42	70	56	47	41	55	47	41	53	46	41	52	46	41	39
9	67	52	43	37	65	51	43	37	50	42	37	49	42	37	48	41	36	34
10	62	48	39	33	61	47	39	33	46	38	33	45	38	33	44	38	33	31

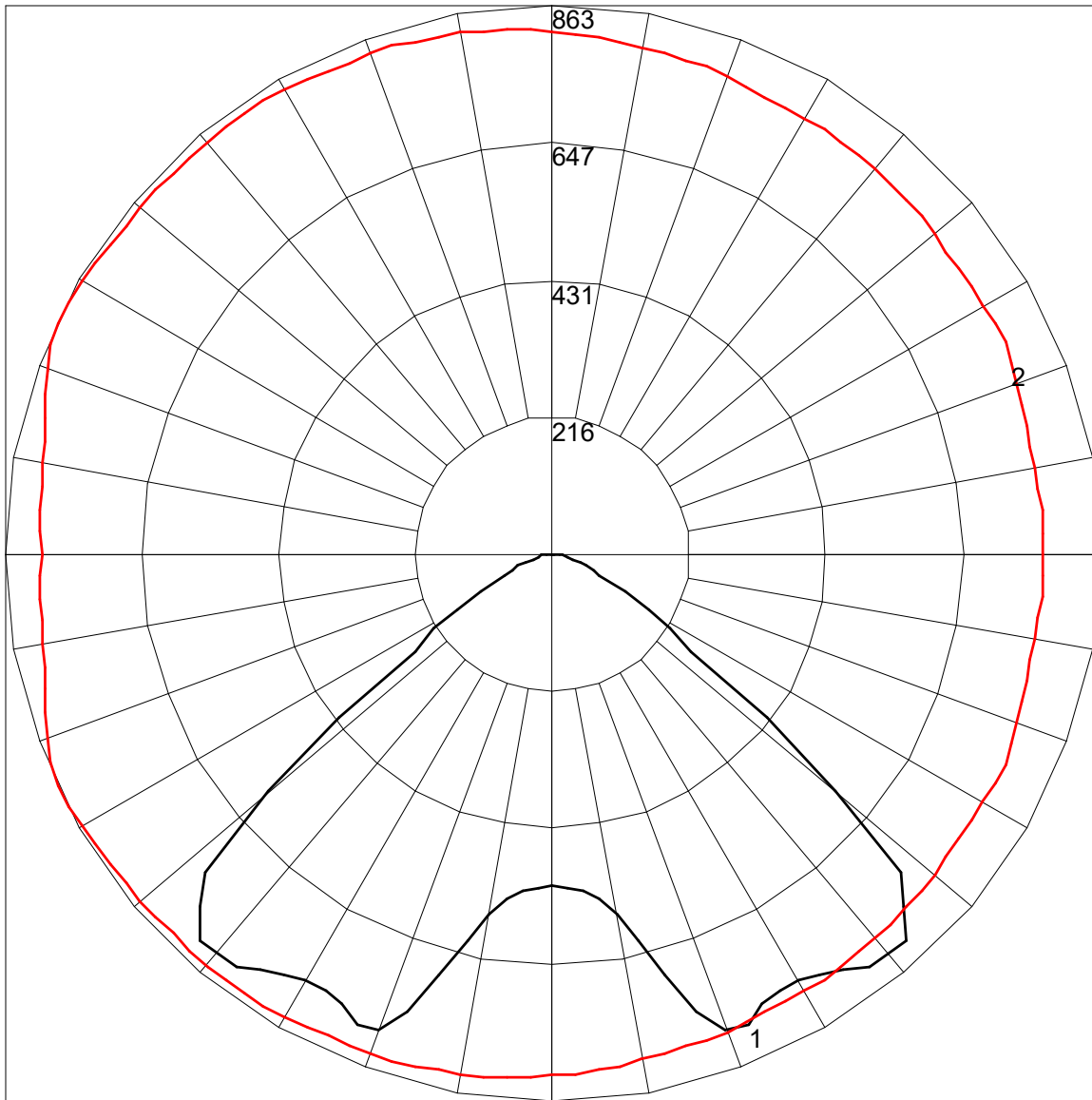
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UGR TABLE - CORRECTED

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	13.3	14.8	13.7	15.1	15.4	2.2	2.2	2.2	2.2	2.2
	3H	14.1	15.4	14.5	15.8	16.1	2.2	2.2	2.2	2.2	2.2
	4H	14.3	15.6	14.7	15.9	16.3	2.2	2.2	2.2	2.2	2.2
	6H	14.5	15.6	14.9	16.0	16.4	2.2	2.2	2.2	2.2	2.2
	8H	14.5	15.6	14.9	15.9	16.3	2.2	2.2	2.2	2.2	2.2
	12H	14.5	15.5	14.9	15.9	16.3	2.2	2.2	2.2	2.2	2.2
4H	2H	13.2	14.4	13.6	14.8	15.2	2.2	3.1	2.3	3.4	3.8
	3H	14.2	15.2	14.6	15.6	16.0	2.3	3.3	2.7	3.7	4.1
	4H	14.5	15.3	14.9	15.8	16.2	2.3	3.2	2.8	3.6	4.1
	6H	14.6	15.4	15.1	15.9	16.3	2.3	3.1	2.7	3.5	4.0
	8H	14.7	15.4	15.2	15.9	16.3	2.3	3.0	2.7	3.4	3.9
	12H	14.7	15.3	15.2	15.8	16.3	2.3	2.9	2.8	3.4	3.9
8H	4H	14.4	15.1	14.8	15.5	16.0	3.6	4.4	4.1	4.8	5.3
	6H	14.6	15.2	15.1	15.7	16.2	3.7	4.3	4.2	4.8	5.3
	8H	14.7	15.2	15.2	15.7	16.2	3.7	4.2	4.2	4.8	5.2
	12H	14.6	15.1	15.1	15.6	16.2	3.7	4.2	4.2	4.7	5.3
12H	4H	14.3	15.0	14.8	15.5	15.9	3.9	4.5	4.3	5.0	5.5
	6H	14.6	15.1	15.1	15.6	16.1	4.0	4.5	4.5	5.0	5.5
	8H	14.6	15.1	15.1	15.6	16.1	4.0	4.5	4.5	5.0	5.5

Maximum UGR = 16.4

POLAR GRAPH



Maximum Candela = 862.511 Located At Horizontal Angle = 155, Vertical Angle = 40
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)