



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : OSA8S-L10-835-AC-XX-XXX-XX-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TESTLAB0] GEN from Intertek report  
 [ISSUEDATE] 18 OCT 2021  
 [MANUFAC] WILLIAMS OUTDOOR  
 [LUMCAT] OSA8S-L10-835-AC-xx-xxx-xx-DIM-UNV  
 [LUMINAIRE] 8 INCH SQUARE BOLLARD  
 [LAMPCAT] LED 835cct

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1041
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	11
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	0.02
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	0.02
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.67 ft
Luminous Width (90-270)	0.67 ft
Luminous Height	0.00 ft



### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5386	5034	4767
55	9770	10329	8983
65	17367	17633	14103
75	12055	16858	13745
85	7873	11329	12673

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
<b>0.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>2.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>5.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>7.5</b>	14.072	9.681	1.297	0.000	5.589	1.597	0.000	5.090	14.571	5.090
<b>10.0</b>	29.241	26.148	9.381	6.986	33.633	24.451	2.695	23.952	50.199	23.952
<b>12.5</b>	44.611	35.229	12.375	18.263	76.646	38.124	4.790	32.834	77.046	32.834
<b>15.0</b>	60.878	40.918	12.076	27.046	101.796	45.010	6.387	35.229	93.912	35.229
<b>17.5</b>	73.652	48.203	12.375	35.329	97.604	52.595	8.184	42.714	102.794	42.714
<b>20.0</b>	84.431	58.882	14.271	49.900	93.313	62.475	10.379	55.688	102.395	55.688
<b>22.5</b>	92.515	71.856	17.565	67.165	91.616	72.555	12.974	72.155	97.904	72.155
<b>25.0</b>	101.696	90.119	21.856	88.722	95.409	88.822	15.768	86.327	94.012	86.327
<b>27.5</b>	118.263	109.481	27.545	108.183	100.299	109.281	19.760	100.000	98.403	100.000
<b>30.0</b>	131.936	123.453	36.028	121.656	106.287	125.349	26.048	114.171	114.670	114.171
<b>32.5</b>	128.842	124.351	46.307	127.245	110.279	130.638	35.229	121.257	128.642	121.257
<b>35.0</b>	116.966	118.363	56.686	125.748	109.381	127.544	48.004	120.459	126.147	120.459
<b>37.5</b>	110.479	116.566	69.860	124.950	108.882	123.253	63.972	118.363	116.966	118.363
<b>40.0</b>	113.473	124.251	88.123	130.439	113.972	125.548	84.032	119.560	111.776	119.560
<b>42.5</b>	130.538	145.309	113.972	145.608	125.848	138.123	109.381	127.744	112.075	127.744
<b>45.0</b>	158.981	173.353	148.602	166.367	140.718	157.784	135.728	146.506	125.748	146.506
<b>47.5</b>	182.434	196.506	182.135	187.424	155.588	178.343	157.085	165.069	147.804	165.069
<b>50.0</b>	197.804	212.374	206.287	207.784	175.448	194.810	170.159	177.744	166.566	177.744
<b>52.5</b>	211.476	228.841	226.845	228.043	197.804	207.983	182.634	187.325	178.442	187.325
<b>55.0</b>	233.931	249.001	247.304	245.408	215.069	219.360	198.203	201.696	190.518	201.696
<b>57.5</b>	254.789	270.558	268.362	262.973	232.334	234.430	216.566	220.658	205.289	220.658
<b>60.0</b>	277.244	290.119	283.332	281.436	250.298	251.995	232.634	237.724	219.859	237.724
<b>62.5</b>	302.294	308.282	296.606	292.713	259.580	266.765	244.510	253.791	235.229	253.791
<b>65.0</b>	306.386	312.374	311.077	286.925	248.801	265.069	249.899	266.067	252.095	266.067
<b>67.5</b>	280.438	285.228	317.164	268.961	229.839	246.606	251.696	266.666	259.181	266.666
<b>70.0</b>	232.334	243.013	294.909	239.919	207.484	221.456	247.105	247.504	247.504	247.504
<b>72.5</b>	180.937	189.021	242.614	201.995	181.237	192.315	227.544	215.468	208.981	215.468
<b>75.0</b>	130.239	142.514	182.135	159.580	148.502	156.985	188.123	174.051	169.760	174.051
<b>77.5</b>	89.121	101.596	124.950	123.453	116.367	124.151	149.900	134.131	127.245	134.131
<b>80.0</b>	58.283	70.060	88.024	91.716	89.121	92.814	112.175	96.806	89.620	96.806
<b>82.5</b>	36.726	49.800	59.181	68.163	65.369	68.163	77.944	65.768	58.183	65.768
<b>85.0</b>	28.643	35.828	41.217	48.403	46.108	47.305	52.195	43.413	35.828	43.413
<b>87.5</b>	22.355	26.846	29.241	31.836	29.142	30.040	31.936	28.942	24.251	28.942
<b>90.0</b>	15.269	18.563	20.259	20.359	16.766	18.463	19.860	18.663	15.269	18.663
<b>92.5</b>	10.379	13.772	15.070	14.371	10.679	13.273	14.072	13.074	9.880	13.074
<b>95.0</b>	10.978	14.371	15.569	14.271	11.078	14.172	14.970	13.673	10.579	13.673
<b>97.5</b>	13.673	16.866	18.064	16.567	14.172	16.866	17.565	16.068	13.373	16.068
<b>100.0</b>	17.365	19.561	20.858	19.361	18.463	19.361	20.359	18.762	17.565	18.762
<b>102.5</b>	22.056	22.156	23.054	22.156	22.854	21.856	22.355	21.357	22.455	21.357
<b>105.0</b>	26.247	23.852	24.251	23.952	25.249	23.553	23.553	23.054	25.150	23.054
<b>107.5</b>	26.846	24.950	25.050	24.850	25.649	24.551	24.451	24.052	26.148	24.052
<b>110.0</b>	24.651	25.249	25.948	25.050	23.852	24.750	25.349	24.251	25.249	24.251
<b>112.5</b>	22.655	25.150	26.647	24.850	22.355	24.651	26.048	24.451	23.453	24.451
<b>115.0</b>	22.754	25.449	26.946	25.050	22.754	24.950	26.347	24.651	22.854	24.651
<b>117.5</b>	23.054	25.150	27.046	24.750	22.854	24.651	26.647	24.551	23.054	24.551
<b>120.0</b>	22.455	24.750	26.946	24.351	23.154	24.451	26.547	24.351	22.555	24.351
<b>122.5</b>	21.956	24.451	26.746	23.952	22.854	24.251	26.347	24.152	22.255	24.152
<b>125.0</b>	21.657	24.052	26.247	23.553	21.956	23.852	26.048	23.752	21.856	23.752
<b>127.5</b>	21.058	23.752	25.649	23.154	21.058	23.453	25.349	23.253	21.058	23.253
<b>130.0</b>	20.359	23.353	24.850	22.655	20.259	22.854	24.351	22.655	20.259	22.655
<b>132.5</b>	19.760	22.754	23.752	21.956	19.361	22.255	23.253	21.956	19.361	21.956

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**CANDELA TABULATION - (Cont.)**

135.0	19.062	21.756	22.754	21.058	18.363	21.357	22.156	21.058	18.263	21.058
137.5	17.964	20.459	21.557	19.960	17.265	20.160	20.958	19.860	16.966	19.860
140.0	16.667	19.062	20.259	18.563	16.068	18.563	19.760	18.363	15.768	18.363
142.5	15.269	17.565	18.762	17.066	14.671	16.966	18.363	16.766	14.371	16.766
145.0	13.772	15.968	17.166	15.569	13.373	15.369	16.866	15.070	12.874	15.070
147.5	12.475	14.371	15.469	13.972	11.976	13.772	15.070	13.373	11.677	13.373
150.0	11.078	12.575	13.772	12.275	10.479	12.076	13.273	11.677	10.279	11.677
152.5	9.880	10.878	11.976	10.579	9.182	10.379	11.477	10.080	8.782	10.080
155.0	8.483	9.182	10.080	8.882	7.884	8.683	9.581	8.483	7.485	8.483
157.5	6.886	7.485	8.184	7.285	6.587	7.086	7.784	6.986	6.188	6.986
160.0	5.289	5.788	6.287	5.589	5.090	5.489	5.888	5.289	4.990	5.289
162.5	3.892	3.992	4.391	3.892	3.593	3.892	4.092	3.792	3.693	3.792
165.0	2.495	2.395	2.495	2.295	2.096	2.295	2.395	2.196	2.196	2.196
167.5	0.998	0.898	0.798	0.798	0.798	0.798	0.798	0.798	0.798	0.798
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	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>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.5	0.000	1.597	5.589	0.000	1.297	9.681	14.072
10.0	2.695	24.451	33.633	6.986	9.381	26.148	29.241
12.5	4.790	38.124	76.646	18.263	12.375	35.229	44.611
15.0	6.387	45.010	101.796	27.046	12.076	40.918	60.878
17.5	8.184	52.595	97.604	35.329	12.375	48.203	73.652
20.0	10.379	62.475	93.313	49.900	14.271	58.882	84.431
22.5	12.974	72.555	91.616	67.165	17.565	71.856	92.515
25.0	15.768	88.822	95.409	88.722	21.856	90.119	101.696
27.5	19.760	109.281	100.299	108.183	27.545	109.481	118.263
30.0	26.048	125.349	106.287	121.656	36.028	123.453	131.936
32.5	35.229	130.638	110.279	127.245	46.307	124.351	128.842
35.0	48.004	127.544	109.381	125.748	56.686	118.363	116.966
37.5	63.972	123.253	108.882	124.950	69.860	116.566	110.479
40.0	84.032	125.548	113.972	130.439	88.123	124.251	113.473
42.5	109.381	138.123	125.848	145.608	113.972	145.309	130.538
45.0	135.728	157.784	140.718	166.367	148.602	173.353	158.981
47.5	157.085	178.343	155.588	187.424	182.135	196.506	182.434
50.0	170.159	194.810	175.448	207.784	206.287	212.374	197.804
52.5	182.634	207.983	197.804	228.043	226.845	228.841	211.476
55.0	198.203	219.360	215.069	245.408	247.304	249.001	233.931
57.5	216.566	234.430	232.334	262.973	268.362	270.558	254.789
60.0	232.634	251.995	250.298	281.436	283.332	290.119	277.244
62.5	244.510	266.765	259.580	292.713	296.606	308.282	302.294
65.0	249.899	265.069	248.801	286.925	311.077	312.374	306.386
67.5	251.696	246.606	229.839	268.961	317.164	285.228	280.438
70.0	247.105	221.456	207.484	239.919	294.909	243.013	232.334
72.5	227.544	192.315	181.237	201.995	242.614	189.021	180.937
75.0	188.123	156.985	148.502	159.580	182.135	142.514	130.239
77.5	149.900	124.151	116.367	123.453	124.950	101.596	89.121
80.0	112.175	92.814	89.121	91.716	88.024	70.060	58.283

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## CANDELA TABULATION - (Cont.)

82.5	77.944	68.163	65.369	68.163	59.181	49.800	36.726
85.0	52.195	47.305	46.108	48.403	41.217	35.828	28.643
87.5	31.936	30.040	29.142	31.836	29.241	26.846	22.355
90.0	19.860	18.463	16.766	20.359	20.259	18.563	15.269
92.5	14.072	13.273	10.679	14.371	15.070	13.772	10.379
95.0	14.970	14.172	11.078	14.271	15.569	14.371	10.978
97.5	17.565	16.866	14.172	16.567	18.064	16.866	13.673
100.0	20.359	19.361	18.463	19.361	20.858	19.561	17.365
102.5	22.355	21.856	22.854	22.156	23.054	22.156	22.056
105.0	23.553	23.553	25.249	23.952	24.251	23.852	26.247
107.5	24.451	24.551	25.649	24.850	25.050	24.950	26.846
110.0	25.349	24.750	23.852	25.050	25.948	25.249	24.651
112.5	26.048	24.651	22.355	24.850	26.647	25.150	22.655
115.0	26.347	24.950	22.754	25.050	26.946	25.449	22.754
117.5	26.647	24.651	22.854	24.750	27.046	25.150	23.054
120.0	26.547	24.451	23.154	24.351	26.946	24.750	22.455
122.5	26.347	24.251	22.854	23.952	26.746	24.451	21.956
125.0	26.048	23.852	21.956	23.553	26.247	24.052	21.657
127.5	25.349	23.453	21.058	23.154	25.649	23.752	21.058
130.0	24.351	22.854	20.259	22.655	24.850	23.353	20.359
132.5	23.253	22.255	19.361	21.956	23.752	22.754	19.760
135.0	22.156	21.357	18.363	21.058	22.754	21.756	19.062
137.5	20.958	20.160	17.265	19.960	21.557	20.459	17.964
140.0	19.760	18.563	16.068	18.563	20.259	19.062	16.667
142.5	18.363	16.966	14.671	17.066	18.762	17.565	15.269
145.0	16.866	15.369	13.373	15.569	17.166	15.968	13.772
147.5	15.070	13.772	11.976	13.972	15.469	14.371	12.475
150.0	13.273	12.076	10.479	12.275	13.772	12.575	11.078
152.5	11.477	10.379	9.182	10.579	11.976	10.878	9.880
155.0	9.581	8.683	7.884	8.882	10.080	9.182	8.483
157.5	7.784	7.086	6.587	7.285	8.184	7.485	6.886
160.0	5.888	5.489	5.090	5.589	6.287	5.788	5.289
162.5	4.092	3.892	3.593	3.892	4.391	3.992	3.892
165.0	2.395	2.295	2.096	2.295	2.495	2.395	2.495
167.5	0.798	0.798	0.798	0.798	0.798	0.898	0.998
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	12.68	N.A.	1.20
0-30	47.64	N.A.	4.60
0-40	113.12	N.A.	10.90
0-60	432.99	N.A.	41.60
0-80	871.48	N.A.	83.70
0-90	922.92	N.A.	88.60
10-90	922.32	N.A.	88.60
20-40	100.44	N.A.	9.60
20-50	218.42	N.A.	21.00
40-70	585.16	N.A.	56.20
60-80	438.49	N.A.	42.10
70-80	173.21	N.A.	16.60
80-90	51.43	N.A.	4.90
90-110	41.55	N.A.	4.00
90-120	66.16	N.A.	6.40
90-130	87.54	N.A.	8.40
90-150	113.33	N.A.	10.90
90-180	118.30	N.A.	11.40
110-180	76.75	N.A.	7.40
0-180	1041.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	0.60
10-20	12.08
20-30	34.96
30-40	65.48
40-50	117.98
50-60	201.90
60-70	265.28
70-80	173.21
80-90	51.43
90-100	16.85
100-110	24.71
110-120	24.60
120-130	21.38
130-140	16.11
140-150	9.69
150-160	4.19
160-170	0.78
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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	101	94	88	83	97	91	85	80	84	80	76	78	75	71	73	70	67	64
2	88	77	67	60	84	74	65	58	68	61	55	63	57	52	58	53	49	46
3	77	64	53	44	74	61	51	43	56	48	41	52	44	38	47	41	36	33
4	69	54	42	34	65	51	41	33	47	38	31	43	36	29	40	33	28	25
5	62	46	35	26	59	44	34	26	40	31	24	37	29	23	34	27	22	19
6	56	40	29	21	53	38	28	21	35	26	19	32	24	18	29	23	17	15
7	51	35	25	17	49	34	24	17	31	22	16	28	21	15	26	19	14	12
8	47	31	21	15	45	30	21	14	28	19	13	25	18	12	23	17	12	9
9	44	28	19	12	41	27	18	12	25	17	11	23	16	11	21	15	10	8
10	41	26	17	11	39	25	16	10	23	15	10	21	14	9	19	13	8	6

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : OSA8S-L10-835-AC-XX-XXX-XX-DIM-UNV\_.IES

## 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

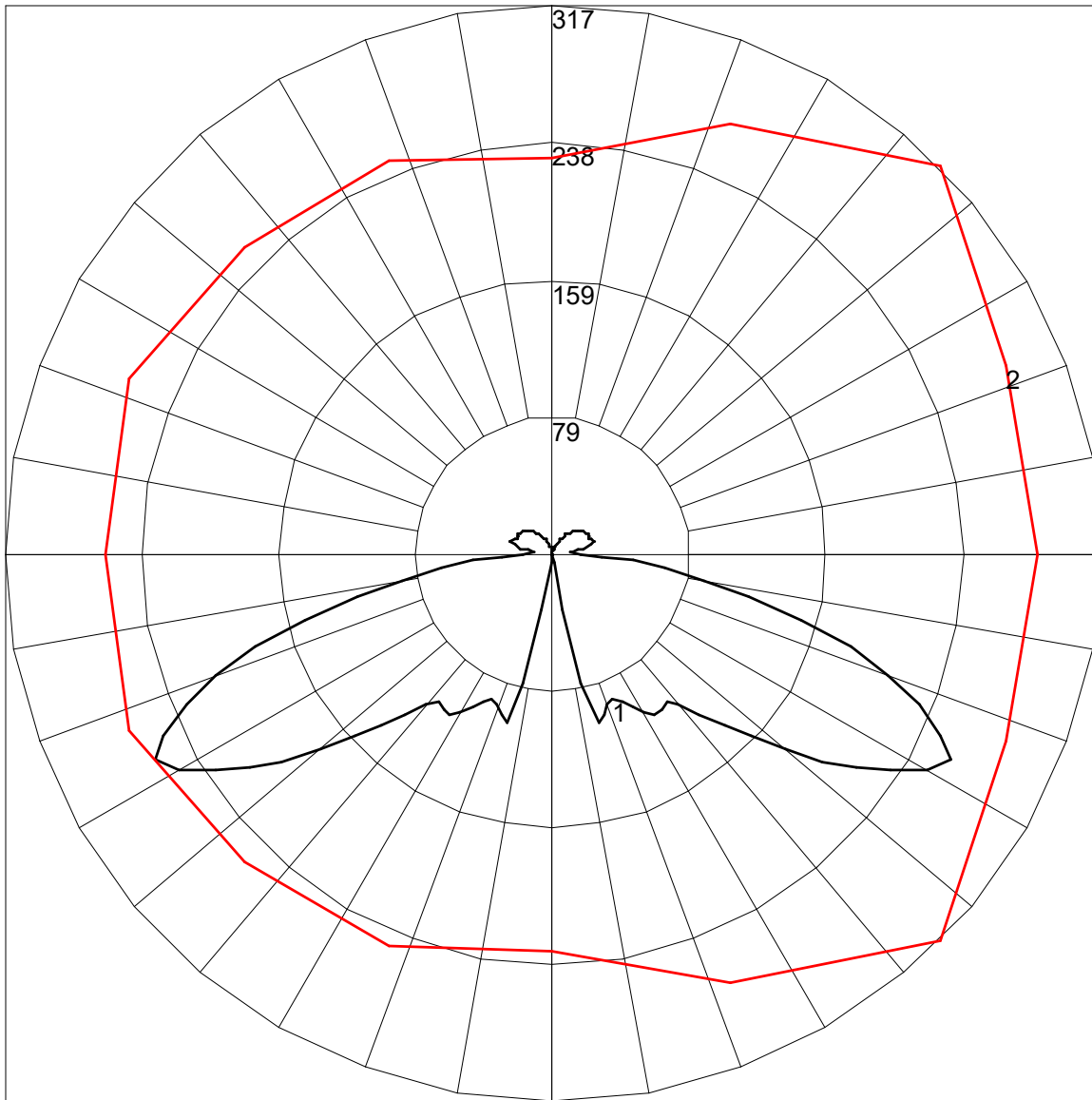
X=2H	Y=2H	21.6	23.3	22.1	23.9	24.4	21.0	22.7	21.5	23.3	23.8
	3H	25.1	26.7	25.6	27.2	27.8	24.3	25.9	24.9	26.5	27.1
	4H	25.8	27.3	26.3	27.9	28.5	25.3	26.9	25.9	27.4	28.0
	6H	26.1	27.5	26.7	28.1	28.7	26.0	27.4	26.6	28.0	28.6
	8H	26.2	27.6	26.7	28.1	28.8	26.2	27.6	26.8	28.2	28.8
	12H	26.2	27.6	26.8	28.1	28.8	26.4	27.8	27.0	28.3	29.0

### UGR Viewed Endwise

4H	2H	23.1	24.6	23.6	25.2	25.8	22.5	24.0	23.0	24.5	25.1
	3H	26.4	27.7	27.0	28.3	29.0	25.8	27.1	26.3	27.7	28.3
	4H	27.2	28.4	27.7	29.0	29.6	26.8	28.1	27.4	28.7	29.3
	6H	27.6	28.6	28.1	29.3	29.9	27.6	28.7	28.2	29.3	30.0
	8H	27.7	28.7	28.3	29.3	30.0	27.8	28.9	28.4	29.5	30.2
	12H	27.8	28.7	28.4	29.3	30.0	28.1	29.0	28.7	29.7	30.4
8H	4H	27.6	28.7	28.2	29.3	30.0	27.4	28.4	28.0	29.0	29.7
	6H	28.1	29.0	28.8	29.7	30.3	28.3	29.1	28.9	29.8	30.5
	8H	28.3	29.1	28.9	29.7	30.4	28.6	29.4	29.3	30.1	30.8
	12H	28.5	29.1	29.1	29.8	30.6	29.0	29.6	29.6	30.3	31.1
12H	4H	27.7	28.6	28.3	29.3	30.0	27.5	28.4	28.1	29.0	29.7
	6H	28.2	29.0	28.9	29.6	30.4	28.4	29.2	29.0	29.8	30.6
	8H	28.5	29.1	29.1	29.8	30.6	28.8	29.5	29.4	30.1	30.9

Maximum UGR = 31.1

POLAR GRAPH



Maximum Candela = 317.164 Located At Horizontal Angle = 45, Vertical Angle = 67.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)