



IES INDOOR REPORT

PHOTOMETRIC FILENAME : OSA8S-L16-835-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-L16-835-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	1615
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	18.1
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	8357	7811	7397
55	15159	16026	13937
65	26946	27358	21881
75	18703	26156	21326
85	12215	17578	19663

IES INDOOR REPORT
PHOTOMETRIC FILENAME : OSA8S-L16-835-AC-XX-XXX-XX-DIM-UNV_.IES

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>
0.0	0.000	0.000	0.000	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	0.000	0.000	0.000
5.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.5	21.833	15.020	2.013	0.000	8.671	2.477	0.000	7.897	22.607	7.897
10.0	45.369	40.569	14.555	10.839	52.182	37.936	4.181	37.162	77.885	37.162
12.5	69.214	54.659	19.200	28.336	118.919	59.150	7.432	50.943	119.538	50.943
15.0	94.454	63.485	18.736	41.962	157.939	69.834	9.910	54.659	145.706	54.659
17.5	114.273	74.789	19.200	54.814	151.435	81.602	12.697	66.272	159.487	66.272
20.0	130.996	91.357	22.142	77.421	144.777	96.931	16.104	86.402	158.868	86.402
22.5	143.538	111.486	27.252	104.209	142.145	112.570	20.129	111.951	151.900	111.951
25.0	157.784	139.822	33.910	137.654	148.029	137.809	24.465	133.938	145.861	133.938
27.5	183.488	169.861	42.736	167.849	155.616	169.552	30.659	155.151	152.674	155.151
30.0	204.701	191.539	55.898	188.752	164.907	194.481	40.414	177.139	177.913	177.139
32.5	199.901	192.933	71.847	197.423	171.100	202.688	54.659	188.133	199.591	188.133
35.0	181.475	183.642	87.950	195.101	169.707	197.888	74.479	186.894	195.720	186.894
37.5	171.410	180.855	108.389	193.862	168.932	191.230	99.254	183.642	181.475	183.642
40.0	176.055	192.778	136.725	202.378	176.829	194.791	130.377	185.500	173.423	185.500
42.5	202.533	225.450	176.829	225.914	195.256	214.301	169.707	198.198	173.887	198.198
45.0	246.663	268.960	230.559	258.121	218.327	244.805	210.585	227.308	195.101	227.308
47.5	283.051	304.884	282.586	290.793	241.398	276.702	243.721	256.108	229.321	256.108
50.0	306.896	329.503	320.058	322.381	272.212	302.251	264.005	275.773	258.431	275.773
52.5	328.110	355.052	351.955	353.814	306.896	322.690	283.361	290.638	276.857	290.638
55.0	362.949	386.330	383.698	380.756	333.684	340.342	307.516	312.935	295.593	312.935
57.5	395.311	419.776	416.370	408.008	360.472	363.723	336.007	342.355	318.510	342.355
60.0	430.151	450.125	439.596	436.654	388.343	390.976	360.936	368.833	341.116	368.833
62.5	469.016	478.306	460.190	454.151	402.744	413.892	379.362	393.763	364.962	393.763
65.0	475.364	484.655	482.642	445.170	386.021	411.260	387.724	412.808	391.130	412.808
67.5	435.105	442.538	492.087	417.299	356.601	382.614	390.511	413.737	402.124	413.737
70.0	360.472	377.040	457.558	372.240	321.916	343.594	383.388	384.008	384.008	384.008
72.5	280.728	293.270	376.420	313.400	281.193	298.380	353.039	334.303	324.239	334.303
75.0	202.069	221.114	282.586	247.592	230.405	243.566	291.877	270.044	263.386	270.044
77.5	138.274	157.629	193.862	191.539	180.546	192.623	232.572	208.107	197.423	208.107
80.0	90.428	108.699	136.570	142.300	138.274	144.003	174.042	150.197	139.048	150.197
82.5	56.982	77.266	91.821	105.757	101.421	105.757	120.931	102.041	90.273	102.041
85.0	44.440	55.588	63.950	75.098	71.537	73.395	80.982	67.356	55.588	67.356
87.5	34.685	41.652	45.369	49.395	45.214	46.607	49.549	44.904	37.627	44.904
90.0	23.691	28.801	31.433	31.588	26.013	28.646	30.814	28.955	23.691	28.955
92.5	16.104	21.368	23.381	22.297	16.568	20.594	21.833	20.284	15.329	20.284
95.0	17.033	22.297	24.155	22.142	17.187	21.988	23.226	21.213	16.413	21.213
97.5	21.213	26.168	28.026	25.704	21.988	26.168	27.252	24.930	20.749	24.930
100.0	26.942	30.349	32.362	30.039	28.646	30.039	31.588	29.110	27.252	29.110
102.5	34.220	34.375	35.768	34.375	35.459	33.910	34.685	33.136	34.839	33.136
105.0	40.723	37.007	37.627	37.162	39.175	36.543	36.543	35.768	39.020	35.768
107.5	41.652	38.710	38.865	38.556	39.794	38.091	37.936	37.317	40.569	37.317
110.0	38.246	39.175	40.259	38.865	37.007	38.401	39.330	37.627	39.175	37.627
112.5	35.149	39.020	41.343	38.556	34.685	38.246	40.414	37.936	36.388	37.936
115.0	35.304	39.485	41.807	38.865	35.304	38.710	40.878	38.246	35.459	38.246
117.5	35.768	39.020	41.962	38.401	35.459	38.246	41.343	38.091	35.768	38.091
120.0	34.839	38.401	41.807	37.781	35.923	37.936	41.188	37.781	34.994	37.781
122.5	34.065	37.936	41.498	37.162	35.459	37.627	40.878	37.472	34.530	37.472
125.0	33.601	37.317	40.723	36.543	34.065	37.007	40.414	36.852	33.910	36.852
127.5	32.672	36.852	39.794	35.923	32.672	36.388	39.330	36.078	32.672	36.078
130.0	31.588	36.233	38.556	35.149	31.433	35.459	37.781	35.149	31.433	35.149
132.5	30.659	35.304	36.852	34.065	30.039	34.530	36.078	34.065	30.039	34.065

IES INDOOR REPORT
PHOTOMETRIC FILENAME : OSA8S-L16-835-AC-XX-XXX-XX-DIM-UNV_.IES

CANDELA TABULATION - (Cont.)

135.0	29.575	33.756	35.304	32.672	28.491	33.136	34.375	32.672	28.336	32.672
137.5	27.872	31.743	33.446	30.968	26.788	31.278	32.517	30.814	26.323	30.814
140.0	25.859	29.575	31.433	28.801	24.930	28.801	30.659	28.491	24.465	28.491
142.5	23.691	27.252	29.110	26.478	22.762	26.323	28.491	26.013	22.297	26.013
145.0	21.368	24.775	26.633	24.155	20.749	23.846	26.168	23.381	19.975	23.381
147.5	19.355	22.297	24.000	21.678	18.581	21.368	23.381	20.749	18.116	20.749
150.0	17.187	19.510	21.368	19.046	16.258	18.736	20.594	18.116	15.949	18.116
152.5	15.329	16.878	18.581	16.413	14.245	16.104	17.807	15.639	13.626	15.639
155.0	13.162	14.245	15.639	13.781	12.233	13.471	14.865	13.162	11.613	13.162
157.5	10.684	11.613	12.697	11.303	10.220	10.994	12.078	10.839	9.600	10.839
160.0	8.207	8.981	9.755	8.671	7.897	8.516	9.136	8.207	7.742	8.207
162.5	6.039	6.194	6.813	6.039	5.574	6.039	6.349	5.884	5.729	5.884
165.0	3.871	3.716	3.871	3.561	3.252	3.561	3.716	3.407	3.407	3.407
167.5	1.548	1.394	1.239	1.239	1.239	1.239	1.239	1.239	1.239	1.239
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	2.477	8.671	0.000	2.013	15.020	21.833
10.0	4.181	37.936	52.182	10.839	14.555	40.569	45.369
12.5	7.432	59.150	118.919	28.336	19.200	54.659	69.214
15.0	9.910	69.834	157.939	41.962	18.736	63.485	94.454
17.5	12.697	81.602	151.435	54.814	19.200	74.789	114.273
20.0	16.104	96.931	144.777	77.421	22.142	91.357	130.996
22.5	20.129	112.570	142.145	104.209	27.252	111.486	143.538
25.0	24.465	137.809	148.029	137.654	33.910	139.822	157.784
27.5	30.659	169.552	155.616	167.849	42.736	169.861	183.488
30.0	40.414	194.481	164.907	188.752	55.898	191.539	204.701
32.5	54.659	202.688	171.100	197.423	71.847	192.933	199.901
35.0	74.479	197.888	169.707	195.101	87.950	183.642	181.475
37.5	99.254	191.230	168.932	193.862	108.389	180.855	171.410
40.0	130.377	194.791	176.829	202.378	136.725	192.778	176.055
42.5	169.707	214.301	195.256	225.914	176.829	225.450	202.533
45.0	210.585	244.805	218.327	258.121	230.559	268.960	246.663
47.5	243.721	276.702	241.398	290.793	282.586	304.884	283.051
50.0	264.005	302.251	272.212	322.381	320.058	329.503	306.896
52.5	283.361	322.690	306.896	353.814	351.955	355.052	328.110
55.0	307.516	340.342	333.684	380.756	383.698	386.330	362.949
57.5	336.007	363.723	360.472	408.008	416.370	419.776	395.311
60.0	360.936	390.976	388.343	436.654	439.596	450.125	430.151
62.5	379.362	413.892	402.744	454.151	460.190	478.306	469.016
65.0	387.724	411.260	386.021	445.170	482.642	484.655	475.364
67.5	390.511	382.614	356.601	417.299	492.087	442.538	435.105
70.0	383.388	343.594	321.916	372.240	457.558	377.040	360.472
72.5	353.039	298.380	281.193	313.400	376.420	293.270	280.728
75.0	291.877	243.566	230.405	247.592	282.586	221.114	202.069
77.5	232.572	192.623	180.546	191.539	193.862	157.629	138.274
80.0	174.042	144.003	138.274	142.300	136.570	108.699	90.428

IES INDOOR REPORT
PHOTOMETRIC FILENAME : OSA8S-L16-835-AC-XX-XXX-XX-DIM-UNV_.IES

CANDELA TABULATION - (Cont.)

82.5	120.931	105.757	101.421	105.757	91.821	77.266	56.982
85.0	80.982	73.395	71.537	75.098	63.950	55.588	44.440
87.5	49.549	46.607	45.214	49.395	45.369	41.652	34.685
90.0	30.814	28.646	26.013	31.588	31.433	28.801	23.691
92.5	21.833	20.594	16.568	22.297	23.381	21.368	16.104
95.0	23.226	21.988	17.187	22.142	24.155	22.297	17.033
97.5	27.252	26.168	21.988	25.704	28.026	26.168	21.213
100.0	31.588	30.039	28.646	30.039	32.362	30.349	26.942
102.5	34.685	33.910	35.459	34.375	35.768	34.375	34.220
105.0	36.543	36.543	39.175	37.162	37.627	37.007	40.723
107.5	37.936	38.091	39.794	38.556	38.865	38.710	41.652
110.0	39.330	38.401	37.007	38.865	40.259	39.175	38.246
112.5	40.414	38.246	34.685	38.556	41.343	39.020	35.149
115.0	40.878	38.710	35.304	38.865	41.807	39.485	35.304
117.5	41.343	38.246	35.459	38.401	41.962	39.020	35.768
120.0	41.188	37.936	35.923	37.781	41.807	38.401	34.839
122.5	40.878	37.627	35.459	37.162	41.498	37.936	34.065
125.0	40.414	37.007	34.065	36.543	40.723	37.317	33.601
127.5	39.330	36.388	32.672	35.923	39.794	36.852	32.672
130.0	37.781	35.459	31.433	35.149	38.556	36.233	31.588
132.5	36.078	34.530	30.039	34.065	36.852	35.304	30.659
135.0	34.375	33.136	28.491	32.672	35.304	33.756	29.575
137.5	32.517	31.278	26.788	30.968	33.446	31.743	27.872
140.0	30.659	28.801	24.930	28.801	31.433	29.575	25.859
142.5	28.491	26.323	22.762	26.478	29.110	27.252	23.691
145.0	26.168	23.846	20.749	24.155	26.633	24.775	21.368
147.5	23.381	21.368	18.581	21.678	24.000	22.297	19.355
150.0	20.594	18.736	16.258	19.046	21.368	19.510	17.187
152.5	17.807	16.104	14.245	16.413	18.581	16.878	15.329
155.0	14.865	13.471	12.233	13.781	15.639	14.245	13.162
157.5	12.078	10.994	10.220	11.303	12.697	11.613	10.684
160.0	9.136	8.516	7.897	8.671	9.755	8.981	8.207
162.5	6.349	6.039	5.574	6.039	6.813	6.194	6.039
165.0	3.716	3.561	3.252	3.561	3.871	3.716	3.871
167.5	1.239	1.239	1.239	1.239	1.239	1.394	1.548
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : OSA8S-L16-835-AC-XX-XXX-XX-DIM-UNV_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	19.67	N.A.	1.20
0-30	73.91	N.A.	4.60
0-40	175.51	N.A.	10.90
0-60	671.80	N.A.	41.60
0-80	1352.13	N.A.	83.70
0-90	1431.93	N.A.	88.60
10-90	1430.99	N.A.	88.60
20-40	155.83	N.A.	9.60
20-50	338.88	N.A.	21.00
40-70	907.89	N.A.	56.20
60-80	680.33	N.A.	42.10
70-80	268.74	N.A.	16.60
80-90	79.80	N.A.	4.90
90-110	64.47	N.A.	4.00
90-120	102.64	N.A.	6.40
90-130	135.81	N.A.	8.40
90-150	175.84	N.A.	10.90
90-180	183.55	N.A.	11.40
110-180	119.07	N.A.	7.40
0-180	1615.47	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.94
10-20	18.74
20-30	54.24
30-40	101.59
40-50	183.05
50-60	313.25
60-70	411.59
70-80	268.74
80-90	79.80
90-100	26.14
100-110	38.34
110-120	38.17
120-130	33.17
130-140	24.99
140-150	15.03
150-160	6.49
160-170	1.21
170-180	0.00

IES INDOOR REPORT

PHOTOMETRIC FILENAME : OSA8S-L16-835-AC-XX-XXX-XX-DIM-UNV_.IES

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	84	84	84	84	81	81	81	81	76	76	76	71	71	71	66	66	66	64
1	73	68	64	60	70	66	62	58	61	58	55	57	54	52	53	51	49	46
2	64	56	49	43	61	53	47	42	49	44	40	46	41	37	42	39	35	33
3	56	46	38	32	53	44	37	31	41	34	29	37	32	28	34	30	26	24
4	50	39	31	24	47	37	30	24	34	28	22	31	26	21	29	24	20	18
5	45	33	25	19	42	32	24	19	29	23	18	27	21	17	24	20	16	14
6	41	29	21	15	38	28	20	15	25	19	14	23	18	13	21	16	12	11
7	37	25	18	13	35	24	17	12	22	16	12	21	15	11	19	14	10	8
8	34	23	15	11	32	22	15	10	20	14	10	18	13	9	17	12	8	7
9	32	20	14	9	30	20	13	9	18	12	8	17	11	8	15	11	7	6
10	29	19	12	8	28	18	12	7	16	11	7	15	10	7	14	9	6	5

IES INDOOR REPORT

PHOTOMETRIC FILENAME : OSA8S-L16-835-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

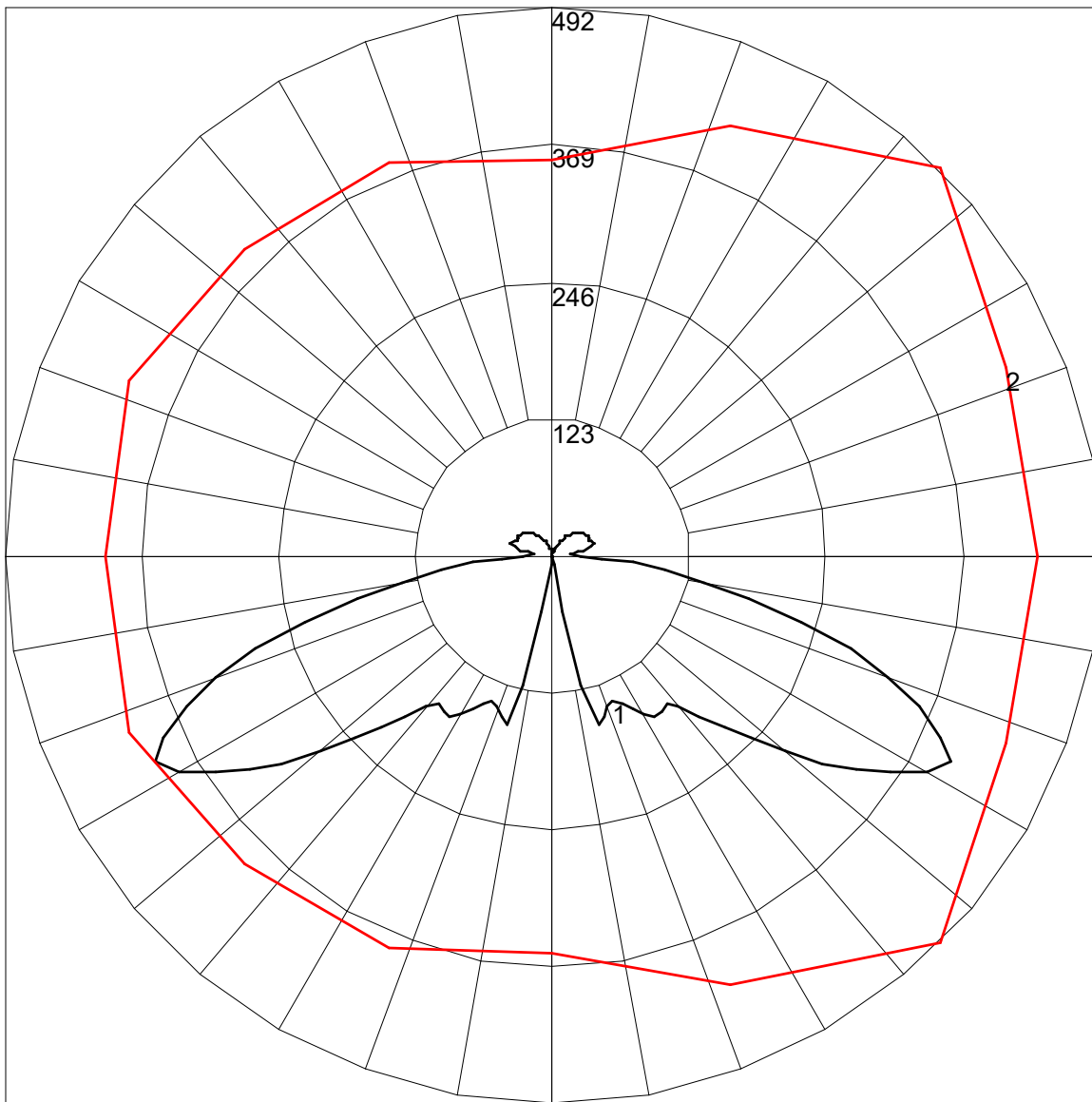
X=2H	Y=2H	24.3	26.0	24.8	26.6	27.1	23.7	25.4	24.2	26.0	26.5
	3H	27.8	29.4	28.3	29.9	30.5	27.0	28.6	27.6	29.2	29.8
	4H	28.5	30.0	29.0	30.6	31.2	28.0	29.6	28.6	30.1	30.7
	6H	28.8	30.2	29.4	30.8	31.4	28.7	30.1	29.3	30.7	31.3
	8H	28.9	30.3	29.4	30.8	31.5	28.9	30.3	29.5	30.9	31.5
	12H	28.9	30.3	29.5	30.8	31.5	29.1	30.4	29.7	31.0	31.7

UGR Viewed Endwise

4H	2H	25.8	27.3	26.3	27.9	28.5	25.1	26.7	25.7	27.2	27.8
	3H	29.1	30.4	29.7	31.0	31.7	28.5	29.8	29.0	30.4	31.0
	4H	29.9	31.1	30.4	31.7	32.3	29.5	30.8	30.1	31.4	32.0
	6H	30.3	31.3	30.8	32.0	32.6	30.3	31.4	30.9	32.0	32.7
	8H	30.4	31.4	31.0	32.0	32.7	30.5	31.6	31.1	32.2	32.9
	12H	30.5	31.4	31.1	32.0	32.7	30.8	31.7	31.4	32.4	33.1
8H	4H	30.3	31.4	30.9	32.0	32.7	30.1	31.1	30.7	31.7	32.4
	6H	30.8	31.7	31.5	32.3	33.0	31.0	31.8	31.6	32.5	33.2
	8H	31.0	31.8	31.6	32.4	33.1	31.3	32.1	32.0	32.8	33.5
	12H	31.2	31.8	31.8	32.5	33.3	31.7	32.3	32.3	33.0	33.8
12H	4H	30.4	31.3	31.0	32.0	32.7	30.2	31.1	30.8	31.7	32.4
	6H	30.9	31.7	31.6	32.3	33.1	31.1	31.9	31.7	32.5	33.2
	8H	31.1	31.8	31.8	32.5	33.3	31.5	32.2	32.1	32.8	33.6

Maximum UGR = 33.8

POLAR GRAPH



Maximum Candela = 492.087 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.)