



IES INDOOR REPORT

PHOTOMETRIC FILENAME : OSA8S-L10-840-AC-FT-DBZ-PAB-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TESTLAB0] GEN from Intertek report
[ISSUE DATE] 11-18-2021
[MANUFACTURER] WILLIAMS OUTDOOR
[LUMEN CATEGORY] OSA8S-L10-840-AC-xx-DBZ-xx-DIM-UNV
[LUMINAIRE] 8 INCH SQUARE BOLLARD
[LAMP CATEGORY] LED 840cct

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	833
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
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	4309	4028	3814
55	7817	8264	7187
65	13895	14108	11284
75	9645	13488	10997
85	6299	9064	10139

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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>
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	11.258	7.745	1.038	0.000	4.471	1.278	0.000	4.072	11.658	4.072
10.0	23.395	20.920	7.506	5.589	26.908	19.562	2.156	19.163	40.163	19.163
12.5	35.691	28.186	9.901	14.612	61.322	30.501	3.833	26.270	61.642	26.270
15.0	48.706	32.737	9.661	21.638	81.444	36.011	5.110	28.186	75.136	28.186
17.5	58.927	38.566	9.901	28.266	78.090	42.079	6.547	34.174	82.242	34.174
20.0	67.550	47.109	11.418	39.923	74.657	49.984	8.304	44.554	81.923	44.554
22.5	74.018	57.490	14.053	53.737	73.299	58.048	10.380	57.729	78.330	57.729
25.0	81.364	72.101	17.486	70.984	76.333	71.063	12.616	69.067	75.215	69.067
27.5	94.618	87.592	22.038	86.554	80.246	87.432	15.810	80.006	78.729	80.006
30.0	105.557	98.770	28.825	97.333	85.037	100.287	20.840	91.345	91.744	91.345
32.5	103.082	99.489	37.049	101.804	88.230	104.519	28.186	97.014	102.922	97.014
35.0	93.580	94.698	45.353	100.607	87.512	102.044	38.406	96.375	100.926	96.375
37.5	88.390	93.261	55.893	99.968	87.113	98.611	51.182	94.698	93.580	94.698
40.0	90.786	99.409	70.505	104.360	91.185	100.447	67.231	95.656	89.428	95.656
42.5	104.439	116.257	91.185	116.496	100.687	110.508	87.512	102.204	89.668	102.204
45.0	127.196	138.694	118.892	133.104	112.584	126.237	108.591	117.215	100.607	117.215
47.5	145.960	157.218	145.720	149.952	124.481	142.686	125.679	132.066	118.253	132.066
50.0	158.256	169.914	165.043	166.241	140.370	155.861	136.138	142.207	133.264	142.207
52.5	169.195	183.088	181.491	182.449	158.256	166.400	146.119	149.872	142.766	149.872
55.0	187.160	199.217	197.860	196.343	172.069	175.503	158.575	161.370	152.427	161.370
57.5	203.848	216.464	214.708	210.396	185.883	187.560	173.267	176.541	164.244	176.541
60.0	221.814	232.114	226.685	225.167	200.255	201.613	186.122	190.195	175.902	190.195
62.5	241.855	246.646	237.304	234.190	207.681	213.430	195.624	203.050	188.198	203.050
65.0	245.129	249.920	248.882	229.559	199.058	212.073	199.936	212.871	201.693	212.871
67.5	224.369	228.202	253.753	215.187	183.887	197.301	201.373	213.350	207.362	213.350
70.0	185.883	194.426	235.947	191.951	166.001	177.180	197.700	198.020	198.020	198.020
72.5	144.762	151.229	194.107	161.610	145.001	153.864	182.050	172.389	167.199	172.389
75.0	104.200	114.021	145.720	127.675	118.812	125.599	150.511	139.252	135.819	139.252
77.5	71.303	81.284	99.968	98.770	93.101	99.329	119.930	107.314	101.804	107.314
80.0	46.630	56.052	70.425	73.379	71.303	74.257	89.748	77.451	71.702	77.451
82.5	29.384	39.843	47.349	54.535	52.300	54.535	62.360	52.619	46.551	52.619
85.0	22.916	28.665	32.977	38.726	36.889	37.847	41.760	34.733	28.665	34.733
87.5	17.886	21.479	23.395	25.471	23.315	24.034	25.551	23.156	19.403	23.156
90.0	12.217	14.851	16.209	16.289	13.414	14.772	15.889	14.931	12.217	14.931
92.5	8.304	11.019	12.057	11.498	8.544	10.620	11.258	10.460	7.905	10.460
95.0	8.783	11.498	12.456	11.418	8.863	11.338	11.977	10.939	8.464	10.939
97.5	10.939	13.494	14.452	13.255	11.338	13.494	14.053	12.855	10.699	12.855
100.0	13.893	15.650	16.688	15.490	14.772	15.490	16.289	15.011	14.053	15.011
102.5	17.646	17.726	18.445	17.726	18.285	17.486	17.886	17.087	17.965	17.087
105.0	21.000	19.083	19.403	19.163	20.201	18.844	18.844	18.445	20.121	18.445
107.5	21.479	19.962	20.041	19.882	20.521	19.642	19.562	19.243	20.920	19.243
110.0	19.722	20.201	20.760	20.041	19.083	19.802	20.281	19.403	20.201	19.403
112.5	18.125	20.121	21.319	19.882	17.886	19.722	20.840	19.562	18.764	19.562
115.0	18.205	20.361	21.559	20.041	18.205	19.962	21.080	19.722	18.285	19.722
117.5	18.445	20.121	21.638	19.802	18.285	19.722	21.319	19.642	18.445	19.642
120.0	17.965	19.802	21.559	19.483	18.524	19.562	21.239	19.483	18.045	19.483
122.5	17.566	19.562	21.399	19.163	18.285	19.403	21.080	19.323	17.806	19.323
125.0	17.327	19.243	21.000	18.844	17.566	19.083	20.840	19.003	17.486	19.003
127.5	16.848	19.003	20.521	18.524	16.848	18.764	20.281	18.604	16.848	18.604
130.0	16.289	18.684	19.882	18.125	16.209	18.285	19.483	18.125	16.209	18.125
132.5	15.810	18.205	19.003	17.566	15.490	17.806	18.604	17.566	15.490	17.566

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CANDELA TABULATION - (Cont.)

135.0	15.251	17.407	18.205	16.848	14.692	17.087	17.726	16.848	14.612	16.848
137.5	14.372	16.369	17.247	15.969	13.813	16.129	16.768	15.889	13.574	15.889
140.0	13.334	15.251	16.209	14.851	12.855	14.851	15.810	14.692	12.616	14.692
142.5	12.217	14.053	15.011	13.654	11.737	13.574	14.692	13.414	11.498	13.414
145.0	11.019	12.775	13.734	12.456	10.699	12.296	13.494	12.057	10.300	12.057
147.5	9.981	11.498	12.376	11.179	9.582	11.019	12.057	10.699	9.342	10.699
150.0	8.863	10.061	11.019	9.821	8.384	9.661	10.620	9.342	8.224	9.342
152.5	7.905	8.703	9.582	8.464	7.346	8.304	9.182	8.065	7.027	8.065
155.0	6.787	7.346	8.065	7.106	6.308	6.947	7.665	6.787	5.988	6.787
157.5	5.509	5.988	6.547	5.829	5.270	5.669	6.228	5.589	4.950	5.589
160.0	4.232	4.631	5.030	4.471	4.072	4.392	4.711	4.232	3.992	4.232
162.5	3.114	3.194	3.513	3.114	2.874	3.114	3.274	3.034	2.954	3.034
165.0	1.996	1.916	1.996	1.836	1.677	1.836	1.916	1.757	1.757	1.757
167.5	0.798	0.719	0.639	0.639	0.639	0.639	0.639	0.639	0.639	0.639
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	1.278	4.471	0.000	1.038	7.745	11.258
10.0	2.156	19.562	26.908	5.589	7.506	20.920	23.395
12.5	3.833	30.501	61.322	14.612	9.901	28.186	35.691
15.0	5.110	36.011	81.444	21.638	9.661	32.737	48.706
17.5	6.547	42.079	78.090	28.266	9.901	38.566	58.927
20.0	8.304	49.984	74.657	39.923	11.418	47.109	67.550
22.5	10.380	58.048	73.299	53.737	14.053	57.490	74.018
25.0	12.616	71.063	76.333	70.984	17.486	72.101	81.364
27.5	15.810	87.432	80.246	86.554	22.038	87.592	94.618
30.0	20.840	100.287	85.037	97.333	28.825	98.770	105.557
32.5	28.186	104.519	88.230	101.804	37.049	99.489	103.082
35.0	38.406	102.044	87.512	100.607	45.353	94.698	93.580
37.5	51.182	98.611	87.113	99.968	55.893	93.261	88.390
40.0	67.231	100.447	91.185	104.360	70.505	99.409	90.786
42.5	87.512	110.508	100.687	116.496	91.185	116.257	104.439
45.0	108.591	126.237	112.584	133.104	118.892	138.694	127.196
47.5	125.679	142.686	124.481	149.952	145.720	157.218	145.960
50.0	136.138	155.861	140.370	166.241	165.043	169.914	158.256
52.5	146.119	166.400	158.256	182.449	181.491	183.088	169.195
55.0	158.575	175.503	172.069	196.343	197.860	199.217	187.160
57.5	173.267	187.560	185.883	210.396	214.708	216.464	203.848
60.0	186.122	201.613	200.255	225.167	226.685	232.114	221.814
62.5	195.624	213.430	207.681	234.190	237.304	246.646	241.855
65.0	199.936	212.073	199.058	229.559	248.882	249.920	245.129
67.5	201.373	197.301	183.887	215.187	253.753	228.202	224.369
70.0	197.700	177.180	166.001	191.951	235.947	194.426	185.883
72.5	182.050	153.864	145.001	161.610	194.107	151.229	144.762
75.0	150.511	125.599	118.812	127.675	145.720	114.021	104.200
77.5	119.930	99.329	93.101	98.770	99.968	81.284	71.303
80.0	89.748	74.257	71.303	73.379	70.425	56.052	46.630

IES INDOOR REPORT**PHOTOMETRIC FILENAME : OSA8S-L10-840-AC-FT-DBZ-PAB-DIM-UNV_.IES****CANDELA TABULATION - (Cont.)**

82.5	62.360	54.535	52.300	54.535	47.349	39.843	29.384
85.0	41.760	37.847	36.889	38.726	32.977	28.665	22.916
87.5	25.551	24.034	23.315	25.471	23.395	21.479	17.886
90.0	15.889	14.772	13.414	16.289	16.209	14.851	12.217
92.5	11.258	10.620	8.544	11.498	12.057	11.019	8.304
95.0	11.977	11.338	8.863	11.418	12.456	11.498	8.783
97.5	14.053	13.494	11.338	13.255	14.452	13.494	10.939
100.0	16.289	15.490	14.772	15.490	16.688	15.650	13.893
102.5	17.886	17.486	18.285	17.726	18.445	17.726	17.646
105.0	18.844	18.844	20.201	19.163	19.403	19.083	21.000
107.5	19.562	19.642	20.521	19.882	20.041	19.962	21.479
110.0	20.281	19.802	19.083	20.041	20.760	20.201	19.722
112.5	20.840	19.722	17.886	19.882	21.319	20.121	18.125
115.0	21.080	19.962	18.205	20.041	21.559	20.361	18.205
117.5	21.319	19.722	18.285	19.802	21.638	20.121	18.445
120.0	21.239	19.562	18.524	19.483	21.559	19.802	17.965
122.5	21.080	19.403	18.285	19.163	21.399	19.562	17.566
125.0	20.840	19.083	17.566	18.844	21.000	19.243	17.327
127.5	20.281	18.764	16.848	18.524	20.521	19.003	16.848
130.0	19.483	18.285	16.209	18.125	19.882	18.684	16.289
132.5	18.604	17.806	15.490	17.566	19.003	18.205	15.810
135.0	17.726	17.087	14.692	16.848	18.205	17.407	15.251
137.5	16.768	16.129	13.813	15.969	17.247	16.369	14.372
140.0	15.810	14.851	12.855	14.851	16.209	15.251	13.334
142.5	14.692	13.574	11.737	13.654	15.011	14.053	12.217
145.0	13.494	12.296	10.699	12.456	13.734	12.775	11.019
147.5	12.057	11.019	9.582	11.179	12.376	11.498	9.981
150.0	10.620	9.661	8.384	9.821	11.019	10.061	8.863
152.5	9.182	8.304	7.346	8.464	9.582	8.703	7.905
155.0	7.665	6.947	6.308	7.106	8.065	7.346	6.787
157.5	6.228	5.669	5.270	5.829	6.547	5.988	5.509
160.0	4.711	4.392	4.072	4.471	5.030	4.631	4.232
162.5	3.274	3.114	2.874	3.114	3.513	3.194	3.114
165.0	1.916	1.836	1.677	1.836	1.996	1.916	1.996
167.5	0.639	0.639	0.639	0.639	0.639	0.719	0.798
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-L10-840-AC-FT-DBZ-PAB-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	10.14	N.A.	1.20
0-30	38.11	N.A.	4.60
0-40	90.50	N.A.	10.90
0-60	346.42	N.A.	41.60
0-80	697.24	N.A.	83.70
0-90	738.40	N.A.	88.60
10-90	737.91	N.A.	88.60
20-40	80.36	N.A.	9.60
20-50	174.75	N.A.	21.00
40-70	468.17	N.A.	56.20
60-80	350.82	N.A.	42.10
70-80	138.58	N.A.	16.60
80-90	41.15	N.A.	4.90
90-110	33.25	N.A.	4.00
90-120	52.93	N.A.	6.40
90-130	70.03	N.A.	8.40
90-150	90.67	N.A.	10.90
90-180	94.65	N.A.	11.40
110-180	61.40	N.A.	7.40
0-180	833.04	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.48
10-20	9.66
20-30	27.97
30-40	52.39
40-50	94.39
50-60	161.53
60-70	212.24
70-80	138.58
80-90	41.15
90-100	13.48
100-110	19.77
110-120	19.68
120-130	17.11
130-140	12.89
140-150	7.75
150-160	3.35
160-170	0.63
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

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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

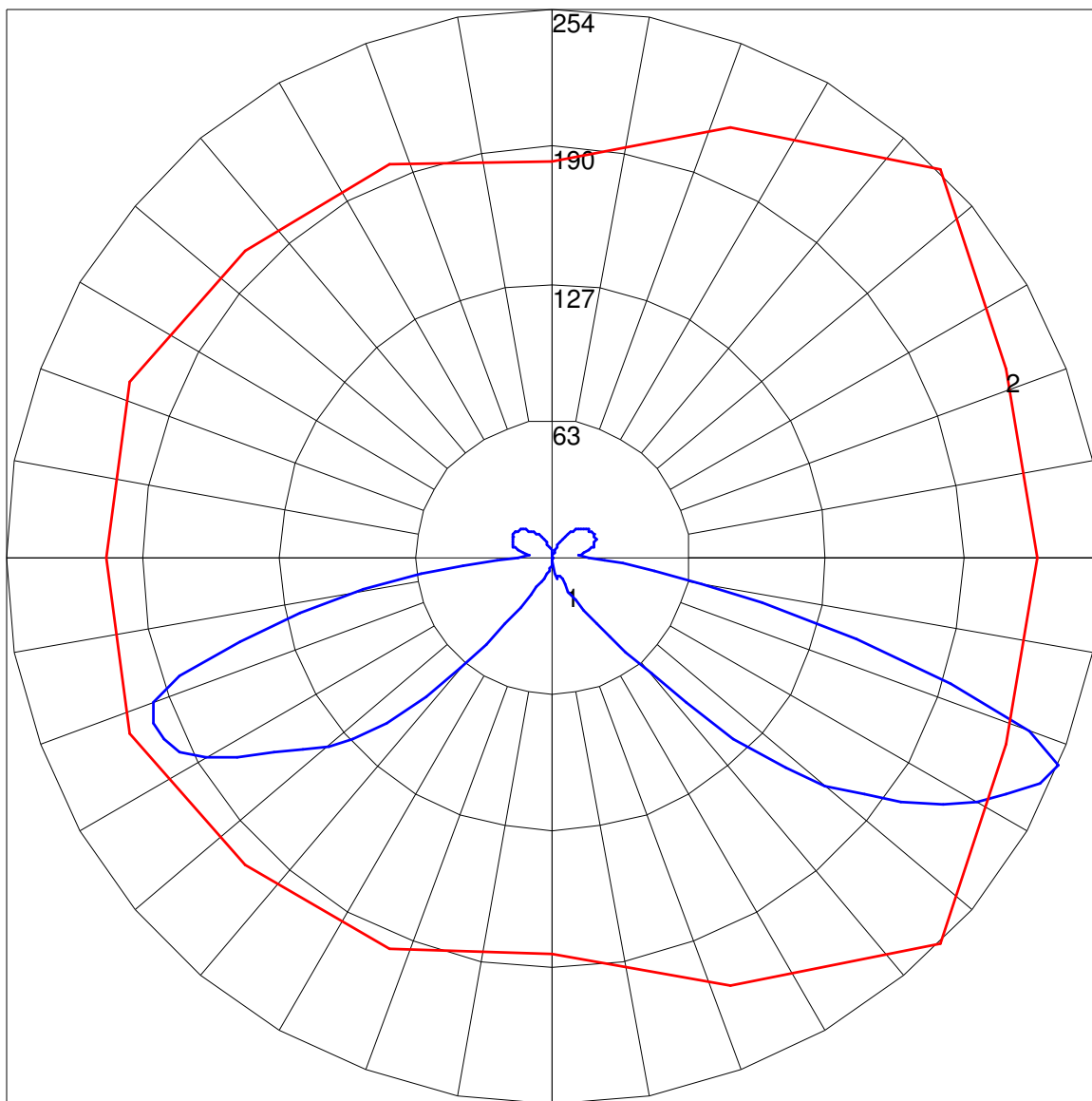
X=2H	Y=2H	20.9	22.6	21.4	23.2	23.7	20.3	22.0	20.8	22.6	23.1
	3H	24.4	26.0	24.9	26.5	27.1	23.6	25.2	24.2	25.8	26.4
	4H	25.1	26.6	25.6	27.2	27.8	24.6	26.2	25.2	26.7	27.3
	6H	25.4	26.8	26.0	27.4	28.0	25.3	26.7	25.9	27.3	27.9
	8H	25.5	26.9	26.0	27.4	28.1	25.5	26.9	26.1	27.5	28.1
	12H	25.5	26.9	26.1	27.4	28.1	25.7	27.0	26.3	27.6	28.3

UGR Viewed Endwise

4H	2H	22.4	23.9	22.9	24.5	25.1	21.7	23.3	22.3	23.8	24.4
	3H	25.7	27.0	26.3	27.6	28.3	25.1	26.4	25.6	27.0	27.6
	4H	26.5	27.7	27.0	28.3	28.9	26.1	27.4	26.7	28.0	28.6
	6H	26.9	27.9	27.4	28.6	29.2	26.9	28.0	27.5	28.6	29.3
	8H	27.0	28.0	27.6	28.6	29.3	27.1	28.2	27.7	28.8	29.5
	12H	27.1	28.0	27.7	28.6	29.3	27.4	28.3	28.0	29.0	29.7
8H	4H	26.9	28.0	27.5	28.6	29.3	26.7	27.7	27.3	28.3	29.0
	6H	27.4	28.3	28.1	28.9	29.6	27.6	28.4	28.2	29.1	29.8
	8H	27.6	28.4	28.2	29.0	29.7	27.9	28.7	28.6	29.4	30.1
	12H	27.8	28.4	28.4	29.1	29.9	28.3	28.9	28.9	29.6	30.4
12H	4H	27.0	27.9	27.6	28.6	29.3	26.8	27.7	27.4	28.3	29.0
	6H	27.5	28.3	28.2	28.9	29.7	27.7	28.5	28.3	29.1	29.8
	8H	27.7	28.4	28.4	29.1	29.9	28.1	28.8	28.7	29.4	30.2

Maximum UGR = 30.4

POLAR GRAPH



Maximum Candela = 253.753 Located At Horizontal Angle = 45, Vertical Angle = 67.5
1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)