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IES INDOOR REPORT PHOTOMETRIC FILENAME : FSN-7564W-WEVE.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] LM-79-08
[TESTLAB] Orb Optronix, Inc.
[ISSUEDATE] 07-19-2019
[MANUFAC] Justice Design
[LUMINAIRE] FSN-7564W-WEVE
[TOTALLUMINAIRELUMENS] 416.4
[ABSOLUTELUMENS] 416.402358891872

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	460
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	24
Total Luminaire Watts	19.58
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.29 ft
Luminous Width (90-270)	0.54 ft
Luminous Height	1.50 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1051	866	650
55	1114	908	685
65	1153	935	706
75	1195	964	728
85	1261	1008	765

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FSN-7564W-WEVE.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	6.581	6.581	6.581	6.581	6.581	6.581	6.581	6.581	6.581	6.581
2.5	8.848	9.257	8.782	7.753	6.990	6.415	6.559	5.961	6.039	5.873
5.0	11.757	12.221	11.403	9.545	7.919	6.990	7.012	6.160	5.983	5.917
7.5	15.053	15.617	14.334	11.525	8.826	7.731	7.300	6.260	5.917	5.995
10.0	18.769	19.156	17.309	13.648	9.987	8.560	7.742	6.348	5.862	6.171
12.5	22.308	22.684	20.483	15.871	11.137	9.434	8.195	6.404	5.773	6.194
15.0	25.847	26.279	23.525	18.094	12.310	10.330	8.682	6.448	5.641	6.326
17.5	29.674	29.984	26.688	20.317	13.504	11.281	9.025	6.448	5.530	6.348
20.0	33.445	33.799	30.028	22.640	14.754	12.188	9.523	6.459	5.287	6.337
22.5	37.151	37.604	33.280	24.962	15.949	13.139	10.065	6.548	5.176	6.315
25.0	40.778	41.232	36.509	27.329	17.099	14.079	10.363	6.647	4.944	6.371
27.5	44.317	44.738	39.595	29.409	18.282	14.964	10.761	6.736	4.811	6.437
30.0	47.713	48.144	42.360	31.565	19.366	15.827	11.215	6.791	4.479	6.492
32.5	50.832	51.440	45.280	33.534	20.339	16.590	11.403	6.802	4.258	6.404
35.0	53.962	54.647	47.901	35.458	21.324	17.342	11.701	6.835	4.037	6.448
37.5	57.202	58.021	50.655	37.350	22.352	18.127	12.000	6.835	3.827	6.437
40.0	60.454	61.405	53.431	39.462	23.281	18.857	12.254	6.846	3.462	6.503
42.5	63.672	64.878	56.240	41.342	24.299	19.665	12.376	6.890	3.274	6.448
45.0	66.802	68.218	59.016	43.300	25.283	20.439	12.741	6.901	3.019	6.437
47.5	69.778	71.381	61.494	45.025	26.157	21.147	13.040	6.990	2.887	6.459
50.0	72.531	74.323	63.860	46.695	26.997	21.722	13.338	6.990	2.632	6.448
52.5	75.396	77.486	66.183	48.222	27.794	22.396	13.626	7.134	2.433	6.492
55.0	78.039	80.506	68.461	49.726	28.424	23.038	13.880	7.145	2.267	6.459
57.5	80.362	83.193	70.507	51.064	29.110	23.514	14.168	7.167	2.035	6.492
60.0	82.452	85.560	72.288	52.170	29.574	23.934	14.367	7.134	1.858	6.503
62.5	84.189	87.551	73.726	53.165	29.939	24.221	14.466	7.189	1.770	6.492
65.0	85.826	89.287	75.120	53.873	30.227	24.409	14.621	7.200	1.725	6.581
67.5	87.263	90.946	76.159	54.504	30.393	24.575	14.721	7.311	1.681	6.536
70.0	88.690	92.650	77.343	55.256	30.570	24.686	14.865	7.388	1.571	6.647
72.5	90.028	93.733	78.570	55.908	30.957	24.929	15.108	7.499	1.537	6.691
75.0	91.411	93.402	79.853	56.583	31.200	25.206	15.407	7.631	1.548	6.736
77.5	92.838	94.242	80.893	57.280	31.421	25.560	15.650	7.720	1.471	6.835
80.0	94.231	95.271	82.032	57.800	31.676	25.714	15.749	7.665	1.371	6.890
82.5	95.415	96.200	82.817	58.131	31.797	25.891	15.794	7.631	1.194	6.791
85.0	96.211	96.819	83.514	58.496	31.797	26.035	15.794	7.521	0.962	6.747
87.5	96.698	97.206	84.001	58.541	31.753	25.936	15.749	7.554	0.940	6.691
90.0	96.797	96.985	83.956	58.364	31.576	25.847	15.650	7.532	0.940	6.747
92.5	96.653	96.720	83.702	58.165	31.565	25.803	15.495	7.432	0.962	6.747
95.0	96.255	96.001	83.359	57.910	31.466	25.681	15.550	7.543	1.084	6.879
97.5	95.514	95.426	82.762	57.457	31.300	25.460	15.340	7.432	1.051	6.702
100.0	94.618	94.519	82.220	57.059	31.079	25.206	15.196	7.277	0.984	6.559
102.5	93.678	93.733	81.523	56.649	30.791	24.940	14.898	7.134	0.841	6.459
105.0	92.694	92.572	80.627	56.196	30.526	24.675	14.688	6.935	0.829	6.304
107.5	91.444	91.555	79.588	55.510	30.216	24.376	14.411	6.935	0.852	6.205
110.0	89.907	90.305	78.294	54.869	29.917	24.033	14.146	7.001	0.896	6.061
112.5	88.126	88.867	77.077	54.183	29.442	23.691	13.803	6.890	0.874	5.906
115.0	86.102	87.297	76.447	53.364	28.988	23.303	13.471	6.636	0.818	5.818
117.5	84.111	85.604	75.905	52.502	28.535	22.850	13.106	6.503	0.796	5.663
120.0	82.065	84.133	75.142	51.705	28.092	22.363	12.918	6.326	0.852	5.519
122.5	80.694	83.293	74.069	50.754	27.584	21.921	12.420	6.160	0.874	5.419
125.0	79.488	82.320	71.956	49.538	27.197	21.335	12.066	5.961	0.973	5.265
127.5	77.685	80.793	69.213	47.967	26.655	20.737	11.679	5.762	0.918	5.165
130.0	75.308	78.559	66.249	46.021	25.936	20.096	11.259	5.464	0.984	5.021
132.5	72.443	75.750	63.429	43.864	25.007	19.355	10.883	5.287	0.984	4.866

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FSN-7564W-WEVE.IES

CANDELA TABULATION - (Cont.)

135.0	69.014	72.244	60.719	41.796	24.044	18.525	10.430	5.176	1.018	4.723
137.5	65.586	68.882	57.722	39.761	23.005	17.729	9.932	4.977	1.161	4.579
140.0	62.002	65.630	56.107	37.615	21.921	16.944	9.512	4.745	1.261	4.479
142.5	58.541	62.235	52.867	35.436	20.793	16.103	9.058	4.623	1.272	4.280
145.0	54.858	58.397	49.980	32.970	19.643	15.263	8.627	4.402	1.316	4.136
147.5	50.832	54.216	46.861	30.459	18.437	14.234	7.996	3.982	1.427	4.026
150.0	46.706	50.157	43.532	27.915	17.121	13.150	7.233	3.672	1.150	3.683
152.5	42.493	46.010	39.971	25.316	15.351	11.867	6.846	3.296	1.150	3.285
155.0	37.261	38.931	36.144	22.308	14.190	10.972	6.017	2.809	0.995	2.898
157.5	34.341	37.250	31.311	20.074	12.885	9.733	5.397	2.511	0.719	2.500
160.0	30.039	32.605	28.977	17.209	11.126	8.350	4.612	1.980	0.542	2.201
162.5	25.681	27.949	24.874	14.201	9.257	7.123	3.959	1.571	0.442	1.792
165.0	21.467	23.514	20.660	11.071	7.676	5.928	3.008	1.161	0.431	1.161
167.5	17.099	18.813	16.678	8.284	6.138	4.457	2.035	0.719	0.487	0.874
170.0	13.449	14.765	12.664	5.641	4.347	3.119	1.062	0.531	0.409	0.719
172.5	8.406	9.545	6.404	3.351	2.477	1.593	0.553	0.442	0.365	0.542
175.0	3.617	4.291	3.207	1.615	1.040	0.675	0.332	0.509	0.487	0.597
177.5	0.664	1.228	1.106	0.575	0.354	0.387	0.476	0.498	0.487	0.498
180.0	0.547	0.547	0.547	0.547	0.547	0.547	0.547	0.547	0.547	0.547

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	6.581	6.581	6.581	6.581	6.581	6.581	6.581
2.5	6.160	6.448	7.101	7.543	8.417	7.886	8.295
5.0	6.326	7.233	8.007	9.180	10.994	10.496	11.104
7.5	6.680	8.007	8.925	11.016	13.825	13.648	14.411
10.0	7.067	8.560	10.076	13.117	16.833	17.132	17.851
12.5	7.421	9.235	11.237	15.086	20.041	20.804	21.467
15.0	7.864	10.031	12.442	17.209	23.005	24.465	25.051
17.5	8.207	10.972	13.593	19.355	26.079	28.214	28.656
20.0	8.605	11.812	14.865	21.390	29.375	32.063	32.328
22.5	9.091	12.686	16.015	23.491	32.295	35.868	36.067
25.0	9.489	13.515	17.176	25.615	35.359	39.562	39.650
27.5	9.843	14.367	18.315	27.639	38.356	43.222	43.145
30.0	10.230	15.219	19.466	29.663	41.210	46.728	46.529
32.5	10.629	16.070	20.583	31.643	44.030	49.958	49.604
35.0	11.027	16.878	21.622	33.556	46.728	53.199	52.933
37.5	11.270	17.475	22.739	35.492	49.350	56.450	56.008
40.0	11.768	18.360	23.801	37.416	52.037	59.713	59.259
42.5	12.011	19.156	24.852	39.495	54.935	63.042	62.522
45.0	12.354	19.941	25.936	41.508	57.589	66.305	65.763
47.5	12.796	20.782	26.820	43.455	60.189	69.346	68.727
50.0	13.051	21.467	27.716	45.368	62.600	72.288	71.547
52.5	13.394	22.153	28.579	47.116	64.922	75.097	74.323
55.0	13.692	22.817	29.320	48.841	67.189	77.885	77.011
57.5	13.880	23.436	30.017	50.489	69.236	80.495	79.544
60.0	14.079	24.000	30.526	51.938	71.016	82.729	81.767
62.5	14.223	24.443	30.979	53.121	72.531	84.587	83.680
65.0	14.378	24.797	31.344	54.271	73.914	86.334	85.339
67.5	14.422	25.117	31.587	55.167	75.186	87.805	86.821
70.0	14.566	25.438	31.930	55.964	76.369	89.332	88.203
72.5	14.776	25.726	32.273	56.848	77.564	90.703	89.818
75.0	14.975	26.024	32.671	57.589	78.692	92.108	91.256
77.5	15.163	26.367	33.346	58.474	79.875	93.557	92.738
80.0	15.418	26.798	33.921	59.127	81.169	95.094	94.087

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FSN-7564W-WEVE.IES

CANDELA TABULATION - (Cont.)

82.5	15.517	27.130	34.352	59.680	82.109	96.355	95.238
85.0	15.606	27.351	34.574	60.034	82.784	97.339	96.244
87.5	15.506	27.462	34.629	60.089	83.182	97.981	96.852
90.0	15.650	27.407	34.651	59.945	83.426	98.246	97.129
92.5	15.550	27.285	34.518	59.602	83.171	98.157	96.963
95.0	15.451	27.141	34.518	59.105	82.795	97.781	96.355
97.5	15.340	26.953	34.275	58.474	82.220	97.162	95.636
100.0	15.185	26.632	33.899	57.733	81.567	96.443	94.806
102.5	14.920	26.245	33.490	56.893	80.583	95.581	93.977
105.0	14.544	25.803	33.136	55.953	79.676	94.463	92.948
107.5	14.312	25.294	32.572	55.012	78.670	93.258	91.566
110.0	14.046	24.985	32.118	54.028	77.354	91.732	89.973
112.5	13.792	24.487	31.433	52.845	75.805	89.918	88.215
115.0	13.405	23.956	30.846	51.860	74.777	88.049	86.290
117.5	13.106	23.292	30.150	50.666	74.058	86.135	84.222
120.0	12.763	22.761	29.464	49.637	73.129	84.299	82.132
122.5	12.476	22.220	28.723	48.553	72.012	83.027	80.517
125.0	12.166	21.633	28.170	47.359	69.899	81.490	79.201
127.5	11.867	20.970	27.528	45.711	67.256	79.532	77.387
130.0	11.502	20.162	26.655	43.842	64.369	77.055	75.285
132.5	11.126	19.477	25.748	41.951	61.659	73.814	72.598
135.0	10.640	18.769	24.752	40.081	58.983	70.220	69.191
137.5	10.286	17.972	23.613	38.201	56.185	66.681	65.641
140.0	9.921	17.209	22.596	36.277	52.845	63.274	62.235
142.5	9.501	16.336	21.445	35.657	49.626	59.824	58.784
145.0	9.047	15.440	20.373	33.888	46.529	55.986	55.377
147.5	8.317	14.666	19.233	31.410	43.112	51.916	51.285
150.0	7.908	13.394	18.083	28.889	39.639	47.923	47.281
152.5	7.244	12.619	16.402	26.610	36.432	43.477	43.344
155.0	6.481	11.436	15.340	23.558	31.742	39.009	37.991
157.5	5.773	10.186	13.891	21.689	29.165	35.381	35.082
160.0	5.054	8.859	12.199	18.990	25.394	31.244	30.736
162.5	4.435	7.620	10.529	16.103	21.622	27.009	26.544
165.0	3.506	6.492	8.804	13.117	17.939	22.441	22.341
167.5	2.699	5.309	6.912	10.242	14.345	18.360	17.906
170.0	1.681	3.937	5.541	7.720	9.854	14.588	14.301
172.5	0.929	2.356	3.771	5.475	5.419	9.235	9.279
175.0	0.785	1.084	1.913	3.451	2.621	4.490	4.479
177.5	0.752	0.763	0.852	1.736	1.183	1.493	0.929
180.0	0.547	0.547	0.547	0.547	0.547	0.547	0.547

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FSN-7564W-WEVE.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	5.23	N.A.	1.10
0-30	15.30	N.A.	3.30
0-40	32.73	N.A.	7.10
0-60	93.22	N.A.	20.20
0-80	182.02	N.A.	39.50
0-90	232.47	N.A.	50.50
10-90	231.56	N.A.	50.30
20-40	27.50	N.A.	6.00
20-50	53.42	N.A.	11.60
40-70	102.24	N.A.	22.20
60-80	88.80	N.A.	19.30
70-80	47.05	N.A.	10.20
80-90	50.45	N.A.	11.00
90-110	97.16	N.A.	21.10
90-120	138.45	N.A.	30.10
90-130	172.91	N.A.	37.60
90-150	215.61	N.A.	46.80
90-180	227.98	N.A.	49.50
110-180	130.82	N.A.	28.40
0-180	460.44	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.91
10-20	4.32
20-30	10.07
30-40	17.43
40-50	25.92
50-60	34.57
60-70	41.75
70-80	47.05
80-90	50.45
90-100	50.26
100-110	46.90
110-120	41.29
120-130	34.46
130-140	25.76
140-150	16.94
150-160	8.92
160-170	3.13
170-180	0.33

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PHOTOMETRIC FILENAME : FSN-7564W-WEVE.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	
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	92	86	80	74	84	78	73	68	65	61	57	53	49	47	41	39	37	31
2	82	72	63	56	74	66	58	52	54	48	43	43	39	35	33	30	27	22
3	73	61	52	44	67	56	48	41	46	39	34	36	31	27	28	24	20	16
4	66	53	43	36	60	48	40	33	40	33	27	31	26	22	24	20	16	12
5	60	47	37	30	55	42	34	27	35	28	23	28	22	18	21	17	13	10
6	55	41	32	25	50	38	29	23	31	24	19	24	19	15	18	14	11	8
7	51	37	28	21	46	34	25	20	28	21	16	22	17	13	17	12	9	6
8	47	33	24	18	43	30	22	17	25	18	14	20	15	11	15	11	8	5
9	44	30	22	16	40	27	20	15	23	16	12	18	13	9	14	10	7	5
10	41	27	19	14	37	25	18	13	21	15	11	17	12	8	13	9	6	4

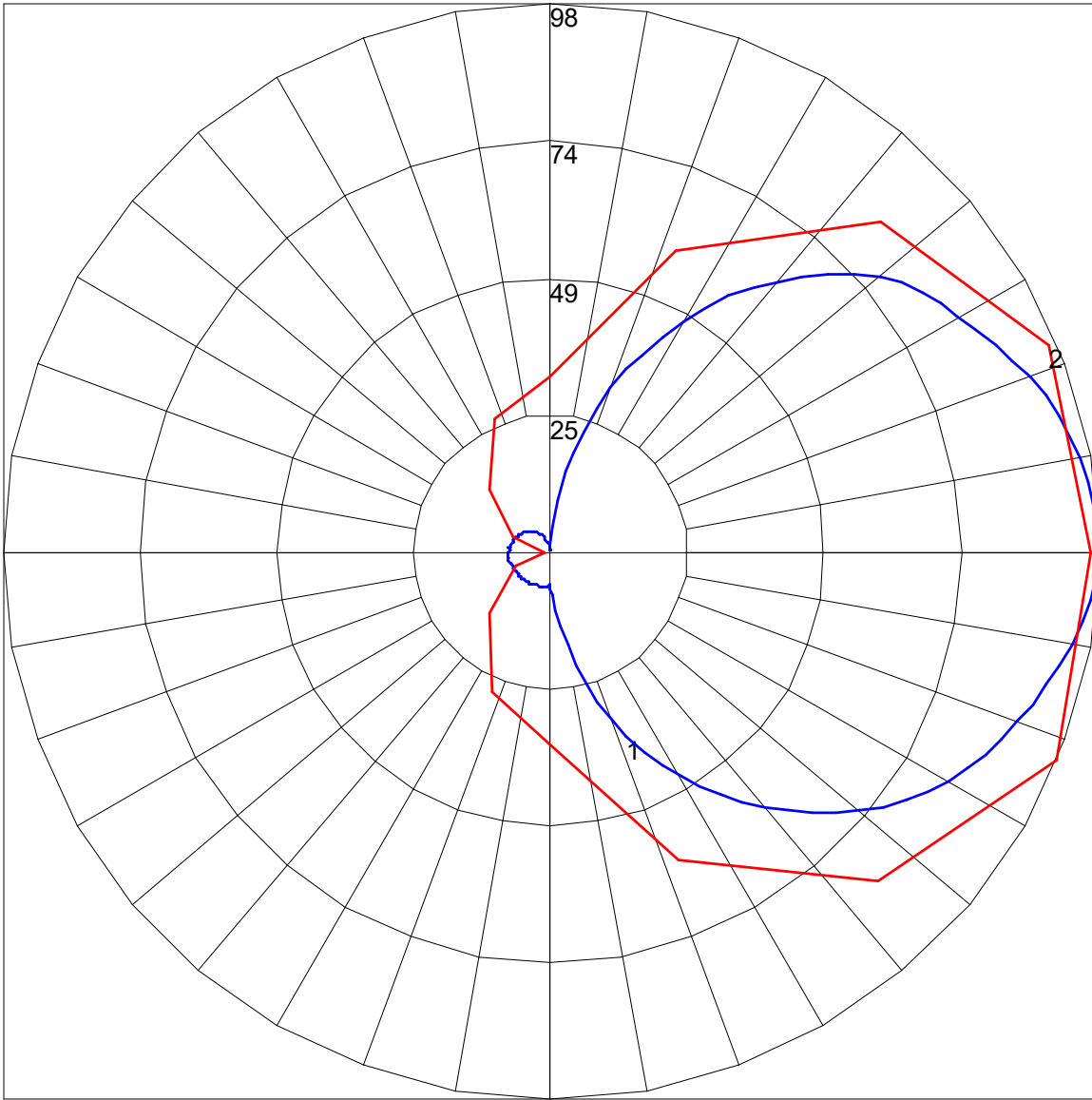
IES INDOOR REPORT
PHOTOMETRIC FILENAME : FSN-7564W-WEVE.IES

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					UGR Viewed Endwise				
X=2H	Y=2H	11.9	13.0	12.9	13.9	15.2	5.6	6.7	6.5	7.6	8.9
	3H	15.2	16.1	16.1	17.1	18.4	8.1	9.1	9.0	10.0	11.3
	4H	16.7	17.7	17.7	18.6	19.9	9.3	10.2	10.2	11.2	12.5
	6H	18.3	19.2	19.3	20.2	21.5	10.5	11.3	11.4	12.3	13.6
	8H	19.1	19.9	20.0	20.9	22.2	11.0	11.9	12.0	12.9	14.1
	12H	19.8	20.6	20.8	21.6	22.9	11.6	12.4	12.5	13.4	14.7
4H	2H	12.4	13.3	13.3	14.3	15.6	7.3	8.2	8.2	9.2	10.5
	3H	15.9	16.7	16.8	17.7	19.0	9.9	10.8	10.9	11.8	13.0
	4H	17.6	18.4	18.6	19.4	20.7	11.2	12.0	12.2	13.0	14.3
	6H	19.4	20.1	20.4	21.1	22.4	12.5	13.2	13.5	14.2	15.5
	8H	20.3	21.0	21.3	22.0	23.3	13.1	13.7	14.1	14.7	16.1
	12H	21.2	21.8	22.2	22.8	24.1	13.7	14.3	14.7	15.3	16.6
8H	4H	18.0	18.6	18.9	19.6	20.9	12.4	13.1	13.4	14.1	15.4
	6H	20.0	20.5	21.0	21.6	22.9	13.9	14.5	14.9	15.5	16.8
	8H	21.0	21.5	22.0	22.6	23.9	14.6	15.2	15.6	16.2	17.5
	12H	22.1	22.6	23.1	23.6	25.0	15.3	15.8	16.3	16.8	18.2
12H	4H	18.0	18.6	19.0	19.6	20.9	12.7	13.3	13.7	14.4	15.7
	6H	20.1	20.6	21.1	21.6	23.0	14.4	14.9	15.4	15.9	17.3
	8H	21.2	21.7	22.2	22.7	24.1	15.2	15.7	16.2	16.7	18.1

Maximum UGR = 25.0

POLAR GRAPH



Maximum Candela = 98.246 Located At Horizontal Angle = 337.5, Vertical Angle = 90
1 - Vertical Plane Through Horizontal Angles (337.5 - 157.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (90) (Through Max. Cd.)