



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_12_27-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.07

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 1-MAR-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS INC. - CARTHAGE, MO.

[LUMCAT] 8CRDI-TL-P29-8TWU-P29-8TWD-xxx-PoE PR-ON-CSU-LW-WHD-WM 4000k

[LUMINAIRE] White formed aluminum housing, specular reflector, clear glass cover

[MORE]

[LAMP] Two white LEDs, one up/ one down

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4581
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	50
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	Circular
Luminous Length (0-180)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 ft (Diameter)
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	31694	31694	31694
55	26387	26387	26387
65	20046	20046	20046
75	14537	14537	14537
85	9474	9474	9474

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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	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436
2.5	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142
5.0	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590
7.5	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840
10.0	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546
12.5	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743
15.0	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684
17.5	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912
20.0	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700
22.5	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858
25.0	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473
27.5	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345
30.0	916.767	916.767	916.767	916.767	916.767	916.767	916.767	916.767	916.767	916.767
32.5	745.492	745.492	745.492	745.492	745.492	745.492	745.492	745.492	745.492	745.492
35.0	611.760	611.760	611.760	611.760	611.760	611.760	611.760	611.760	611.760	611.760
37.5	530.561	530.561	530.561	530.561	530.561	530.561	530.561	530.561	530.561	530.561
40.0	479.775	479.775	479.775	479.775	479.775	479.775	479.775	479.775	479.775	479.775
42.5	442.231	442.231	442.231	442.231	442.231	442.231	442.231	442.231	442.231	442.231
45.0	409.198	409.198	409.198	409.198	409.198	409.198	409.198	409.198	409.198	409.198
47.5	377.184	377.184	377.184	377.184	377.184	377.184	377.184	377.184	377.184	377.184
50.0	344.151	344.151	344.151	344.151	344.151	344.151	344.151	344.151	344.151	344.151
52.5	310.246	310.246	310.246	310.246	310.246	310.246	310.246	310.246	310.246	310.246
55.0	276.340	276.340	276.340	276.340	276.340	276.340	276.340	276.340	276.340	276.340
57.5	243.162	243.162	243.162	243.162	243.162	243.162	243.162	243.162	243.162	243.162
60.0	211.002	211.002	211.002	211.002	211.002	211.002	211.002	211.002	211.002	211.002
62.5	181.607	181.607	181.607	181.607	181.607	181.607	181.607	181.607	181.607	181.607
65.0	154.686	154.686	154.686	154.686	154.686	154.686	154.686	154.686	154.686	154.686
67.5	129.759	129.759	129.759	129.759	129.759	129.759	129.759	129.759	129.759	129.759
70.0	106.636	106.636	106.636	106.636	106.636	106.636	106.636	106.636	106.636	106.636
72.5	86.322	86.322	86.322	86.322	86.322	86.322	86.322	86.322	86.322	86.322
75.0	68.699	68.699	68.699	68.699	68.699	68.699	68.699	68.699	68.699	68.699
77.5	53.114	53.114	53.114	53.114	53.114	53.114	53.114	53.114	53.114	53.114
80.0	39.261	39.261	39.261	39.261	39.261	39.261	39.261	39.261	39.261	39.261
82.5	26.674	26.674	26.674	26.674	26.674	26.674	26.674	26.674	26.674	26.674
85.0	15.076	15.076	15.076	15.076	15.076	15.076	15.076	15.076	15.076	15.076
87.5	5.253	5.253	5.253	5.253	5.253	5.253	5.253	5.253	5.253	5.253
90.0	0.815	0.815	0.815	0.815	0.815	0.815	0.815	0.815	0.815	0.815
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
110.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
112.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
115.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117	1.117
117.5	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235
120.0	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235	2.235
122.5	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352	3.352
125.0	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470	4.470
127.5	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587	5.587
130.0	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939	8.939
132.5	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174	11.174

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135.0	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526	14.526
137.5	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996	18.996
140.0	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466	23.466
142.5	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462	42.462
145.0	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413	270.413
147.5	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636	605.636
150.0	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644	843.644
152.5	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628	919.628
155.0	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875
157.5	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863
160.0	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924
162.5	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702
165.0	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577
167.5	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812
170.0	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987
172.5	6180.403	6180.403	6180.403	6180.403	6180.403	6180.401	6180.401	6180.401	6180.401	6180.401
175.0	10984.160	10984.160	10984.160	10984.160	10984.160	10984.157	10984.157	10984.157	10984.157	10984.157
177.5	19364.728	19364.728	19364.728	19364.728	19364.727	19364.727	19364.726	19364.726	19364.726	19364.726
180.0	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015

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	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436	1445.436
2.5	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142	1437.142
5.0	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590	1422.590
7.5	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840	1412.840
10.0	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546	1404.546
12.5	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743	1399.743
15.0	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684	1388.684
17.5	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912	1369.912
20.0	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700	1342.700
22.5	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858	1288.858
25.0	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473	1197.473
27.5	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345	1073.345
30.0	916.767	916.767	916.767	916.767	916.767	916.767	916.767
32.5	745.492	745.492	745.492	745.492	745.492	745.492	745.492
35.0	611.760	611.760	611.760	611.760	611.760	611.760	611.760
37.5	530.561	530.561	530.561	530.561	530.561	530.561	530.561
40.0	479.775	479.775	479.775	479.775	479.775	479.775	479.775
42.5	442.231	442.231	442.231	442.231	442.231	442.231	442.231
45.0	409.198	409.198	409.198	409.198	409.198	409.198	409.198
47.5	377.184	377.184	377.184	377.184	377.184	377.184	377.184
50.0	344.151	344.151	344.151	344.151	344.151	344.151	344.151
52.5	310.246	310.246	310.246	310.246	310.246	310.246	310.246
55.0	276.340	276.340	276.340	276.340	276.340	276.340	276.340
57.5	243.162	243.162	243.162	243.162	243.162	243.162	243.162
60.0	211.002	211.002	211.002	211.002	211.002	211.002	211.002
62.5	181.607	181.607	181.607	181.607	181.607	181.607	181.607
65.0	154.686	154.686	154.686	154.686	154.686	154.686	154.686
67.5	129.759	129.759	129.759	129.759	129.759	129.759	129.759
70.0	106.636	106.636	106.636	106.636	106.636	106.636	106.636
72.5	86.322	86.322	86.322	86.322	86.322	86.322	86.322
75.0	68.699	68.699	68.699	68.699	68.699	68.699	68.699
77.5	53.114	53.114	53.114	53.114	53.114	53.114	53.114
80.0	39.261	39.261	39.261	39.261	39.261	39.261	39.261

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82.5	26.674	26.674	26.674	26.674	26.674	26.674	26.674
85.0	15.076	15.076	15.076	15.076	15.076	15.076	15.076
87.5	5.253	5.253	5.253	5.253	5.253	5.253	5.253
90.0	0.815	0.815	0.815	0.815	0.815	0.815	0.815
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117
110.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117
112.5	1.117	1.117	1.117	1.117	1.117	1.117	1.117
115.0	1.117	1.117	1.117	1.117	1.117	1.117	1.117
117.5	2.235	2.235	2.235	2.235	2.235	2.235	2.235
120.0	2.235	2.235	2.235	2.235	2.235	2.235	2.235
122.5	3.352	3.352	3.352	3.352	3.352	3.352	3.352
125.0	4.470	4.470	4.470	4.470	4.470	4.470	4.470
127.5	5.587	5.587	5.587	5.587	5.587	5.587	5.587
130.0	8.939	8.939	8.939	8.939	8.939	8.939	8.939
132.5	11.174	11.174	11.174	11.174	11.174	11.174	11.174
135.0	14.526	14.526	14.526	14.526	14.526	14.526	14.526
137.5	18.996	18.996	18.996	18.996	18.996	18.996	18.996
140.0	23.466	23.466	23.466	23.466	23.466	23.466	23.466
142.5	42.462	42.462	42.462	42.462	42.462	42.462	42.462
145.0	270.413	270.413	270.413	270.413	270.413	270.413	270.413
147.5	605.636	605.636	605.636	605.636	605.636	605.636	605.636
150.0	843.644	843.644	843.644	843.644	843.644	843.644	843.644
152.5	919.628	919.628	919.628	919.628	919.628	919.628	919.628
155.0	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875	1140.875
157.5	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863	1473.863
160.0	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924	1740.924
162.5	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702	1957.702
165.0	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577	2270.577
167.5	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812	2824.812
170.0	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987	3939.987
172.5	6180.401	6180.401	6180.403	6180.403	6180.403	6180.403	6180.403
175.0	10984.157	10984.157	10984.160	10984.160	10984.160	10984.160	10984.160
177.5	19364.726	19364.727	19364.727	19364.727	19364.728	19364.728	19364.728
180.0	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015	24583.015

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	526.46	N.A.	11.50
0-30	1063.32	N.A.	23.20
0-40	1464.13	N.A.	32.00
0-60	2027.57	N.A.	44.30
0-80	2256.06	N.A.	49.20
0-90	2274.29	N.A.	49.60
10-90	2138.98	N.A.	46.70
20-40	937.67	N.A.	20.50
20-50	1253.89	N.A.	27.40
40-70	717.85	N.A.	15.70
60-80	228.49	N.A.	5.00
70-80	74.08	N.A.	1.60
80-90	18.23	N.A.	0.40
90-110	0.55	N.A.	0.00
90-120	2.06	N.A.	0.00
90-130	6.27	N.A.	0.10
90-150	218.69	N.A.	4.80
90-180	2306.55	N.A.	50.40
110-180	2306.00	N.A.	50.30
0-180	4580.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	135.31
10-20	391.15
20-30	536.85
30-40	400.82
40-50	316.22
50-60	247.22
60-70	154.41
70-80	74.08
80-90	18.23
90-100	0.11
100-110	0.44
110-120	1.51
120-130	4.21
130-140	11.63
140-150	200.78
150-160	545.21
160-170	672.03
170-180	870.63

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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	99	95	91	88	91	88	85	82	74	72	70	62	61	59	51	50	49	44
2	91	84	78	74	84	78	73	69	66	63	60	56	53	51	46	44	43	38
3	84	75	68	63	77	70	64	59	60	55	52	50	47	45	42	40	38	34
4	77	67	60	54	71	63	56	51	54	49	45	46	42	39	38	36	34	30
5	71	61	53	47	66	57	50	45	49	44	40	42	38	35	35	33	30	27
6	66	55	47	42	61	51	45	40	45	39	36	38	34	32	32	30	27	25
7	62	50	43	37	57	47	40	36	41	36	32	35	31	28	30	27	25	22
8	57	46	39	34	53	43	37	32	38	33	29	33	29	26	28	25	23	21
9	54	42	35	30	50	40	33	29	35	30	26	30	26	24	26	23	21	19
10	50	39	32	28	47	37	31	26	32	28	24	28	24	22	25	22	19	18

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-14_12_27-MERGED.IES

UGR TABLE - CORRECTED

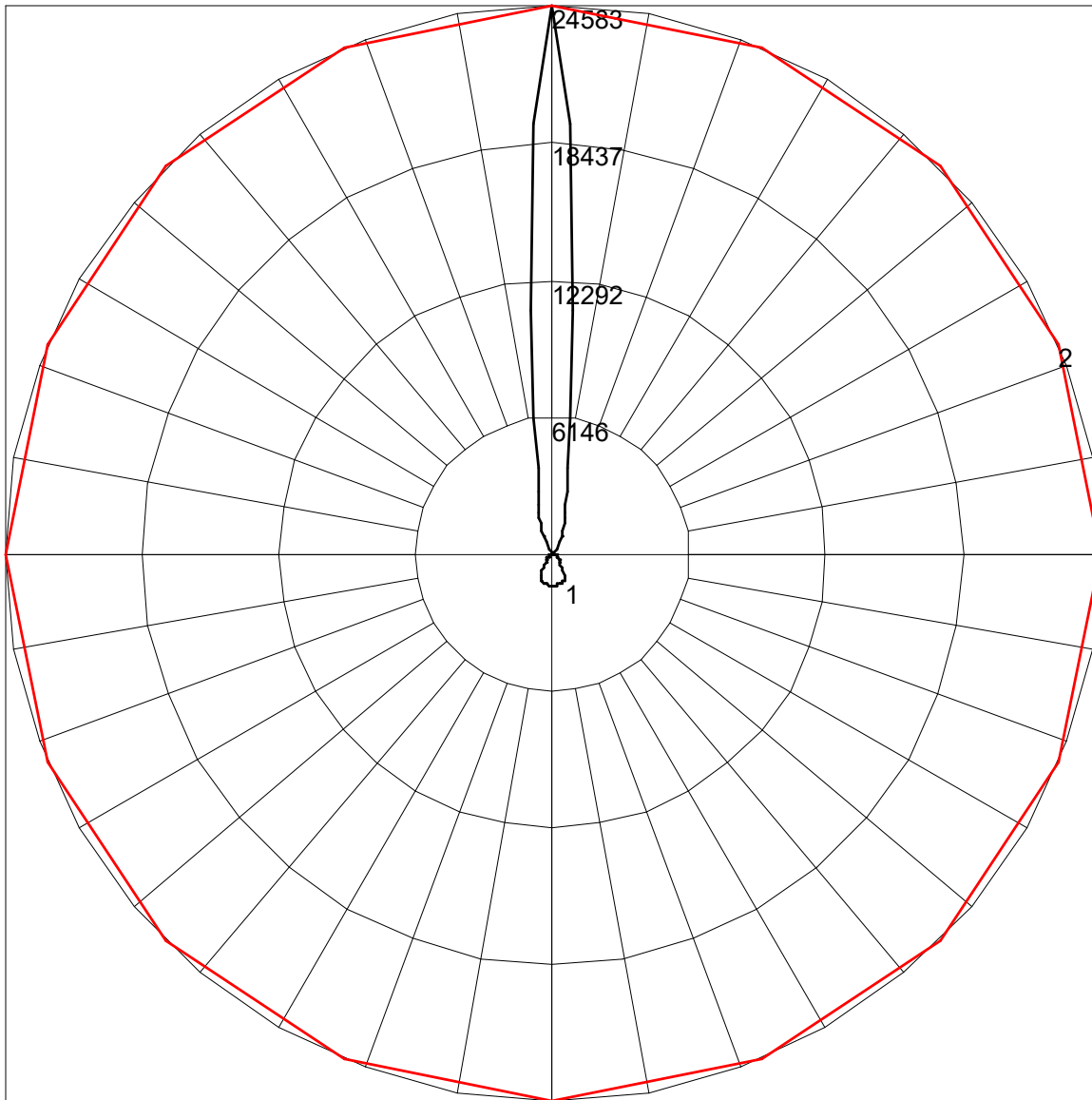
Reflectances

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	17.2	18.0	18.2	19.0	20.3	17.2	18.0	18.2	19.0	20.3
	3H	18.4	19.1	19.4	20.1	21.4	18.4	19.1	19.4	20.1	21.4
	4H	18.8	19.4	19.8	20.4	21.7	18.8	19.4	19.8	20.4	21.7
	6H	19.0	19.6	20.0	20.6	21.9	19.0	19.6	20.0	20.6	21.9
	8H	19.1	19.6	20.1	20.6	22.0	19.1	19.6	20.1	20.6	22.0
	12H	19.1	19.6	20.1	20.6	22.0	19.1	19.6	20.1	20.6	22.0
4H	2H	17.6	18.2	18.6	19.2	20.5	17.6	18.2	18.6	19.2	20.5
	3H	18.9	19.5	19.9	20.5	21.8	18.9	19.5	19.9	20.5	21.8
	4H	19.4	19.9	20.4	20.9	22.3	19.4	19.9	20.4	20.9	22.3
	6H	19.7	20.2	20.8	21.2	22.6	19.7	20.2	20.8	21.2	22.6
	8H	19.8	20.2	20.9	21.3	22.6	19.8	20.2	20.9	21.3	22.6
	12H	19.9	20.2	20.9	21.3	22.7	19.9	20.2	20.9	21.3	22.7
8H	4H	19.5	19.9	20.6	21.0	22.3	19.5	19.9	20.6	21.0	22.3
	6H	20.0	20.3	21.0	21.4	22.7	20.0	20.3	21.0	21.4	22.7
	8H	20.1	20.4	21.2	21.5	22.9	20.1	20.4	21.2	21.5	22.9
	12H	20.2	20.5	21.3	21.5	22.9	20.2	20.5	21.3	21.5	22.9
12H	4H	19.5	19.9	20.6	20.9	22.3	19.5	19.9	20.6	20.9	22.3
	6H	20.0	20.3	21.0	21.3	22.7	20.0	20.3	21.0	21.3	22.7
	8H	20.2	20.4	21.2	21.5	22.9	20.2	20.4	21.2	21.5	22.9

Maximum UGR = 22.9

POLAR GRAPH



Maximum Candela = 24583.015 Located At Horizontal Angle = 0, Vertical Angle = 180
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)