



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-14_17_55-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 & #12326812.04

[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-OM-CSD-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	4951
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
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	4756	4756	4756
55	1751	1751	1751
65	689	689	689
75	309	309	309
85	251	251	251

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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	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863
2.5	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991
5.0	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368
7.5	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710
10.0	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134
12.5	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096
15.0	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264
17.5	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181
20.0	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327
22.5	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649
25.0	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754
27.5	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405
30.0	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133
32.5	945.289	945.289	945.289	945.289	945.289	945.289	945.289	945.289	945.289	945.289
35.0	525.677	525.677	525.677	525.677	525.677	525.677	525.677	525.677	525.677	525.677
37.5	229.278	229.278	229.278	229.278	229.278	229.278	229.278	229.278	229.278	229.278
40.0	153.915	153.915	153.915	153.915	153.915	153.915	153.915	153.915	153.915	153.915
42.5	86.793	86.793	86.793	86.793	86.793	86.793	86.793	86.793	86.793	86.793
45.0	61.407	61.407	61.407	61.407	61.407	61.407	61.407	61.407	61.407	61.407
47.5	47.583	47.583	47.583	47.583	47.583	47.583	47.583	47.583	47.583	47.583
50.0	35.621	35.621	35.621	35.621	35.621	35.621	35.621	35.621	35.621	35.621
52.5	25.785	25.785	25.785	25.785	25.785	25.785	25.785	25.785	25.785	25.785
55.0	18.342	18.342	18.342	18.342	18.342	18.342	18.342	18.342	18.342	18.342
57.5	13.291	13.291	13.291	13.291	13.291	13.291	13.291	13.291	13.291	13.291
60.0	9.703	9.703	9.703	9.703	9.703	9.703	9.703	9.703	9.703	9.703
62.5	7.177	7.177	7.177	7.177	7.177	7.177	7.177	7.177	7.177	7.177
65.0	5.317	5.317	5.317	5.317	5.317	5.317	5.317	5.317	5.317	5.317
67.5	3.855	3.855	3.855	3.855	3.855	3.855	3.855	3.855	3.855	3.855
70.0	2.924	2.924	2.924	2.924	2.924	2.924	2.924	2.924	2.924	2.924
72.5	2.127	2.127	2.127	2.127	2.127	2.127	2.127	2.127	2.127	2.127
75.0	1.462	1.462	1.462	1.462	1.462	1.462	1.462	1.462	1.462	1.462
77.5	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063	1.063
80.0	0.797	0.797	0.797	0.797	0.797	0.797	0.797	0.797	0.797	0.797
82.5	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532	0.532
85.0	0.399	0.399	0.399	0.399	0.399	0.399	0.399	0.399	0.399	0.399
87.5	0.266	0.266	0.266	0.266	0.266	0.266	0.266	0.266	0.266	0.266
90.0	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133
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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CANDELA TABULATION - (Cont.)

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	19364.727	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	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863	5333.863
2.5	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991	5398.991
5.0	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368	5279.368
7.5	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710	4747.710
10.0	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134	3978.134
12.5	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096	3461.096
15.0	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264	3090.264
17.5	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181	2799.181
20.0	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327	2541.327
22.5	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649	2227.649
25.0	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754	1876.754
27.5	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405	1564.405
30.0	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133	1333.133
32.5	945.289	945.289	945.289	945.289	945.289	945.289	945.289
35.0	525.677	525.677	525.677	525.677	525.677	525.677	525.677
37.5	229.278	229.278	229.278	229.278	229.278	229.278	229.278
40.0	153.915	153.915	153.915	153.915	153.915	153.915	153.915
42.5	86.793	86.793	86.793	86.793	86.793	86.793	86.793
45.0	61.407	61.407	61.407	61.407	61.407	61.407	61.407
47.5	47.583	47.583	47.583	47.583	47.583	47.583	47.583
50.0	35.621	35.621	35.621	35.621	35.621	35.621	35.621
52.5	25.785	25.785	25.785	25.785	25.785	25.785	25.785
55.0	18.342	18.342	18.342	18.342	18.342	18.342	18.342
57.5	13.291	13.291	13.291	13.291	13.291	13.291	13.291
60.0	9.703	9.703	9.703	9.703	9.703	9.703	9.703
62.5	7.177	7.177	7.177	7.177	7.177	7.177	7.177
65.0	5.317	5.317	5.317	5.317	5.317	5.317	5.317
67.5	3.855	3.855	3.855	3.855	3.855	3.855	3.855
70.0	2.924	2.924	2.924	2.924	2.924	2.924	2.924
72.5	2.127	2.127	2.127	2.127	2.127	2.127	2.127
75.0	1.462	1.462	1.462	1.462	1.462	1.462	1.462
77.5	1.063	1.063	1.063	1.063	1.063	1.063	1.063
80.0	0.797	0.797	0.797	0.797	0.797	0.797	0.797

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82.5	0.532	0.532	0.532	0.532	0.532	0.532	0.532
85.0	0.399	0.399	0.399	0.399	0.399	0.399	0.399
87.5	0.266	0.266	0.266	0.266	0.266	0.266	0.266
90.0	0.133	0.133	0.133	0.133	0.133	0.133	0.133
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	1332.94	N.A.	26.90
0-30	2196.07	N.A.	44.40
0-40	2564.16	N.A.	51.80
0-60	2637.07	N.A.	53.30
0-80	2644.36	N.A.	53.40
0-90	2644.82	N.A.	53.40
10-90	2185.43	N.A.	44.10
20-40	1231.22	N.A.	24.90
20-50	1286.39	N.A.	26.00
40-70	78.49	N.A.	1.60
60-80	7.30	N.A.	0.10
70-80	1.71	N.A.	0.00
80-90	0.45	N.A.	0.00
90-110	0.46	N.A.	0.00
90-120	1.97	N.A.	0.00
90-130	6.18	N.A.	0.10
90-150	218.59	N.A.	4.40
90-180	2306.46	N.A.	46.60
110-180	2306.00	N.A.	46.60
0-180	4951.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	459.39
10-20	873.55
20-30	863.13
30-40	368.09
40-50	55.17
50-60	17.74
60-70	5.58
70-80	1.71
80-90	0.45
90-100	0.02
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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	101	98	95	93	94	91	89	87	79	77	76	67	66	65	57	56	55	51
2	95	90	85	81	88	84	80	77	73	70	68	63	61	60	54	53	52	48
3	89	82	77	72	83	77	72	69	68	65	62	59	57	55	51	50	49	45
4	84	76	70	65	78	71	66	62	63	60	57	56	53	51	49	47	46	43
5	79	70	64	59	74	66	61	57	59	55	52	53	50	48	47	45	43	40
6	74	65	59	54	70	62	56	52	56	51	48	50	47	44	44	42	41	38
7	70	61	54	50	66	58	52	48	52	48	45	47	44	42	42	40	38	36
8	67	57	51	47	63	54	49	45	49	45	42	45	42	39	40	38	36	34
9	63	53	47	43	60	51	46	42	47	43	40	43	39	37	39	36	35	33
10	60	50	45	41	57	48	43	40	44	40	37	41	37	35	37	35	33	31

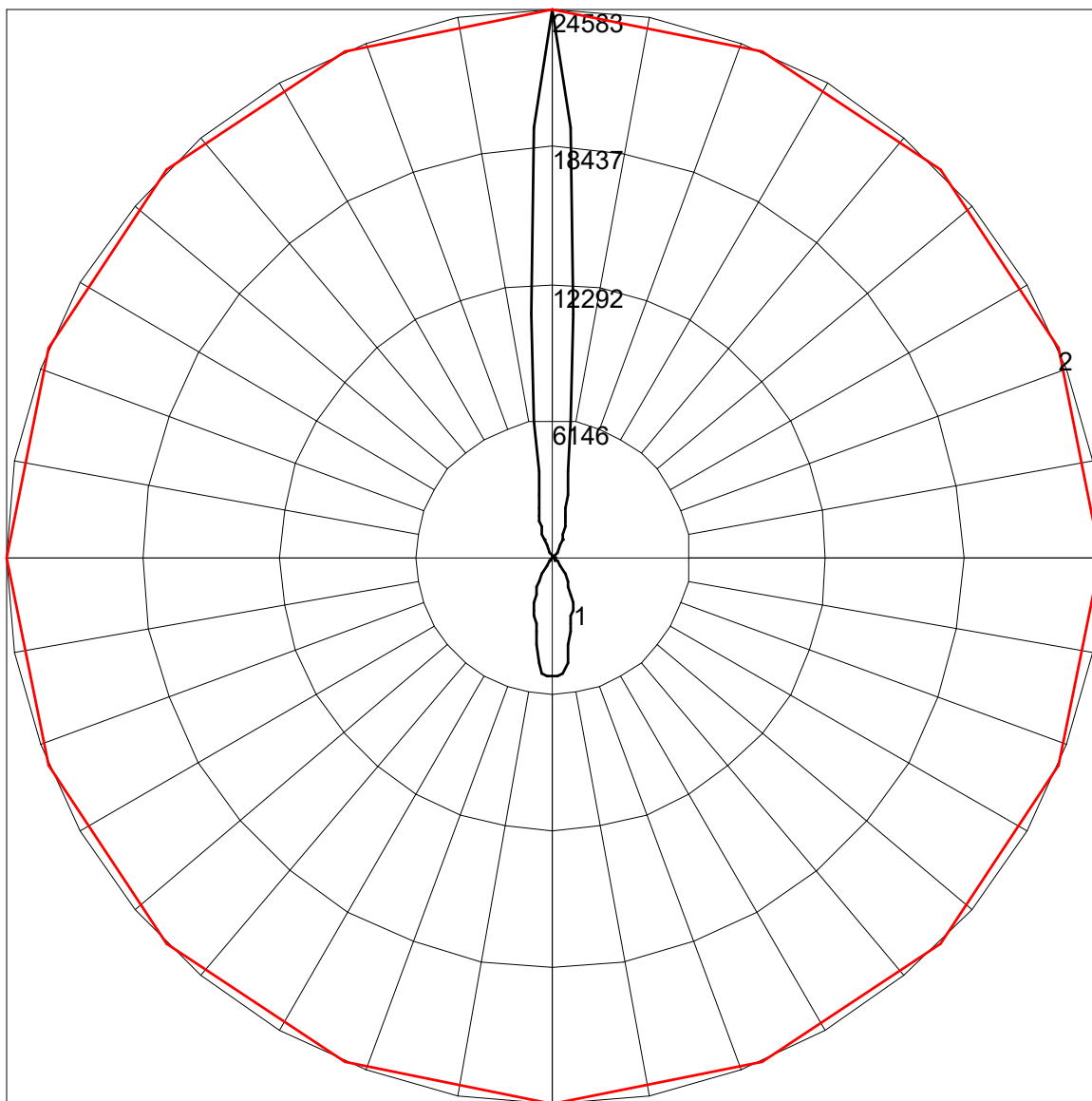
IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-14_17_55-MERGED.IES

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	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	3H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
4H	2H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	3H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
8H	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
12H	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7

Maximum UGR = 5.7

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.)