



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_39_135-10_27_16-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.15

[TESTLAB]

[ISSUEDATE] 15-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-L25-9DWU-L25-9DWD-DIM-UNV-OM-CSU-RN-WHD-WM

[LUMINAIRE] 8" DIA. CYLINDER

[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	4504
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	60
Total Luminaire Watts	75.4
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	6740	6740	6740
55	4409	4409	4409
65	3000	3000	3000
75	1938	1938	1938
85	1556	1556	1556

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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	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553
2.5	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544
5.0	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940
7.5	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536
10.0	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506
12.5	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778
15.0	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181
17.5	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689
20.0	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013
22.5	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757
25.0	809.312	809.312	809.312	809.312	809.312	809.312	809.312	809.312	809.312	809.312
27.5	560.379	560.379	560.379	560.379	560.379	560.379	560.379	560.379	560.379	560.379
30.0	395.248	395.248	395.248	395.248	395.248	395.248	395.248	395.248	395.248	395.248
32.5	286.317	286.317	286.317	286.317	286.317	286.317	286.317	286.317	286.317	286.317
35.0	213.159	213.159	213.159	213.159	213.159	213.159	213.159	213.159	213.159	213.159
37.5	163.150	163.150	163.150	163.150	163.150	163.150	163.150	163.150	163.150	163.150
40.0	128.861	128.861	128.861	128.861	128.861	128.861	128.861	128.861	128.861	128.861
42.5	104.723	104.723	104.723	104.723	104.723	104.723	104.723	104.723	104.723	104.723
45.0	87.021	87.021	87.021	87.021	87.021	87.021	87.021	87.021	87.021	87.021
47.5	73.281	73.281	73.281	73.281	73.281	73.281	73.281	73.281	73.281	73.281
50.0	62.388	62.388	62.388	62.388	62.388	62.388	62.388	62.388	62.388	62.388
52.5	53.476	53.476	53.476	53.476	53.476	53.476	53.476	53.476	53.476	53.476
55.0	46.172	46.172	46.172	46.172	46.172	46.172	46.172	46.172	46.172	46.172
57.5	39.735	39.735	39.735	39.735	39.735	39.735	39.735	39.735	39.735	39.735
60.0	33.917	33.917	33.917	33.917	33.917	33.917	33.917	33.917	33.917	33.917
62.5	28.347	28.347	28.347	28.347	28.347	28.347	28.347	28.347	28.347	28.347
65.0	23.148	23.148	23.148	23.148	23.148	23.148	23.148	23.148	23.148	23.148
67.5	18.692	18.692	18.692	18.692	18.692	18.692	18.692	18.692	18.692	18.692
70.0	14.854	14.854	14.854	14.854	14.854	14.854	14.854	14.854	14.854	14.854
72.5	11.636	11.636	11.636	11.636	11.636	11.636	11.636	11.636	11.636	11.636
75.0	9.160	9.160	9.160	9.160	9.160	9.160	9.160	9.160	9.160	9.160
77.5	7.180	7.180	7.180	7.180	7.180	7.180	7.180	7.180	7.180	7.180
80.0	5.570	5.570	5.570	5.570	5.570	5.570	5.570	5.570	5.570	5.570
82.5	3.961	3.961	3.961	3.961	3.961	3.961	3.961	3.961	3.961	3.961
85.0	2.476	2.476	2.476	2.476	2.476	2.476	2.476	2.476	2.476	2.476
87.5	1.238	1.238	1.238	1.238	1.238	1.238	1.238	1.238	1.238	1.238
90.0	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
92.5	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
95.0	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338
97.5	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451
100.0	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678
102.5	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903
105.0	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241
107.5	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806	1.806
110.0	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483	2.483
112.5	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273	3.273
115.0	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514	4.514
117.5	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094	6.094
120.0	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238	8.238
122.5	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286	11.286
125.0	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575	15.575
127.5	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894	21.894
130.0	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246	30.246
132.5	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403	40.403

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CANDELA TABULATION - (Cont.)

135.0	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140	52.140
137.5	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696	73.696
140.0	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689	130.689
142.5	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680	194.680
145.0	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352	446.352
147.5	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642	802.642
150.0	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961
152.5	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333
155.0	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548
157.5	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492
160.0	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835
162.5	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779
165.0	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937
167.5	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809
170.0	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825
172.5	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271
175.0	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701
177.5	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272
180.0	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927

**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	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553	8329.553
2.5	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544	8126.544
5.0	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940	7550.940
7.5	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536	6674.536
10.0	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506	5581.506
12.5	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778	4406.778
15.0	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181	3295.181
17.5	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689	2376.689
20.0	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013	1681.013
22.5	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757	1171.757
25.0	809.312	809.312	809.312	809.312	809.312	809.312	809.312
27.5	560.379	560.379	560.379	560.379	560.379	560.379	560.379
30.0	395.248	395.248	395.248	395.248	395.248	395.248	395.248
32.5	286.317	286.317	286.317	286.317	286.317	286.317	286.317
35.0	213.159	213.159	213.159	213.159	213.159	213.159	213.159
37.5	163.150	163.150	163.150	163.150	163.150	163.150	163.150
40.0	128.861	128.861	128.861	128.861	128.861	128.861	128.861
42.5	104.723	104.723	104.723	104.723	104.723	104.723	104.723
45.0	87.021	87.021	87.021	87.021	87.021	87.021	87.021
47.5	73.281	73.281	73.281	73.281	73.281	73.281	73.281
50.0	62.388	62.388	62.388	62.388	62.388	62.388	62.388
52.5	53.476	53.476	53.476	53.476	53.476	53.476	53.476
55.0	46.172	46.172	46.172	46.172	46.172	46.172	46.172
57.5	39.735	39.735	39.735	39.735	39.735	39.735	39.735
60.0	33.917	33.917	33.917	33.917	33.917	33.917	33.917
62.5	28.347	28.347	28.347	28.347	28.347	28.347	28.347
65.0	23.148	23.148	23.148	23.148	23.148	23.148	23.148
67.5	18.692	18.692	18.692	18.692	18.692	18.692	18.692
70.0	14.854	14.854	14.854	14.854	14.854	14.854	14.854
72.5	11.636	11.636	11.636	11.636	11.636	11.636	11.636
75.0	9.160	9.160	9.160	9.160	9.160	9.160	9.160
77.5	7.180	7.180	7.180	7.180	7.180	7.180	7.180
80.0	5.570	5.570	5.570	5.570	5.570	5.570	5.570

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CANDELA TABULATION - (Cont.)

82.5	3.961	3.961	3.961	3.961	3.961	3.961	3.961
85.0	2.476	2.476	2.476	2.476	2.476	2.476	2.476
87.5	1.238	1.238	1.238	1.238	1.238	1.238	1.238
90.0	0.484	0.484	0.484	0.484	0.484	0.484	0.484
92.5	0.225	0.225	0.225	0.225	0.225	0.225	0.225
95.0	0.338	0.338	0.338	0.338	0.338	0.338	0.338
97.5	0.451	0.451	0.451	0.451	0.451	0.451	0.451
100.0	0.678	0.678	0.678	0.678	0.678	0.678	0.678
102.5	0.903	0.903	0.903	0.903	0.903	0.903	0.903
105.0	1.241	1.241	1.241	1.241	1.241	1.241	1.241
107.5	1.806	1.806	1.806	1.806	1.806	1.806	1.806
110.0	2.483	2.483	2.483	2.483	2.483	2.483	2.483
112.5	3.273	3.273	3.273	3.273	3.273	3.273	3.273
115.0	4.514	4.514	4.514	4.514	4.514	4.514	4.514
117.5	6.094	6.094	6.094	6.094	6.094	6.094	6.094
120.0	8.238	8.238	8.238	8.238	8.238	8.238	8.238
122.5	11.286	11.286	11.286	11.286	11.286	11.286	11.286
125.0	15.575	15.575	15.575	15.575	15.575	15.575	15.575
127.5	21.894	21.894	21.894	21.894	21.894	21.894	21.894
130.0	30.246	30.246	30.246	30.246	30.246	30.246	30.246
132.5	40.403	40.403	40.403	40.403	40.403	40.403	40.403
135.0	52.140	52.140	52.140	52.140	52.140	52.140	52.140
137.5	73.696	73.696	73.696	73.696	73.696	73.696	73.696
140.0	130.689	130.689	130.689	130.689	130.689	130.689	130.689
142.5	194.680	194.680	194.680	194.680	194.680	194.680	194.680
145.0	446.352	446.352	446.352	446.352	446.352	446.352	446.352
147.5	802.642	802.642	802.642	802.642	802.642	802.642	802.642
150.0	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961	1131.961
152.5	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333	1328.333
155.0	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548	1593.548
157.5	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492	1891.492
160.0	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835	2157.835
162.5	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779	2376.779
165.0	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937	2623.937
167.5	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809	2938.809
170.0	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825	3377.825
172.5	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271	4031.271
175.0	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701	4482.701
177.5	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272	4584.272
180.0	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927	4527.927

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1571.91	N.A.	34.90
0-30	1969.03	N.A.	43.70
0-40	2111.08	N.A.	46.90
0-60	2222.04	N.A.	49.30
0-80	2255.45	N.A.	50.10
0-90	2258.36	N.A.	50.10
10-90	1600.79	N.A.	35.50
20-40	539.17	N.A.	12.00
20-50	608.31	N.A.	13.50
40-70	134.31	N.A.	3.00
60-80	33.41	N.A.	0.70
70-80	10.06	N.A.	0.20
80-90	2.91	N.A.	0.10
90-110	1.89	N.A.	0.00
90-120	6.63	N.A.	0.10
90-130	21.69	N.A.	0.50
90-150	381.08	N.A.	8.50
90-180	2245.76	N.A.	49.90
110-180	2243.87	N.A.	49.80
0-180	4504.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	657.57
10-20	914.34
20-30	397.12
30-40	142.05
40-50	69.14
50-60	41.82
60-70	23.35
70-80	10.06
80-90	2.91
90-100	0.43
100-110	1.46
110-120	4.74
120-130	15.06
130-140	46.84
140-150	312.54
150-160	732.88
160-170	741.73
170-180	390.06

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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	101	97	94	92	93	90	88	86	77	76	74	65	64	63	54	53	53	48
2	94	89	84	81	87	83	79	76	72	69	67	61	60	58	52	51	50	46
3	89	82	76	72	82	77	72	68	67	64	61	58	56	54	50	48	47	43
4	84	76	70	65	78	71	66	62	63	59	56	55	52	50	48	46	45	42
5	79	70	64	60	74	66	61	57	59	55	52	52	50	47	46	44	43	40
6	75	66	60	55	70	62	57	53	56	52	49	50	47	45	44	42	41	38
7	71	62	56	52	67	59	54	50	53	49	46	48	45	43	43	41	39	37
8	68	58	52	48	64	56	50	47	50	47	44	46	43	41	41	39	38	36
9	65	55	49	46	61	53	48	44	48	44	42	44	41	39	40	38	36	35
10	62	52	47	43	58	50	45	42	46	42	40	42	39	37	38	36	35	33

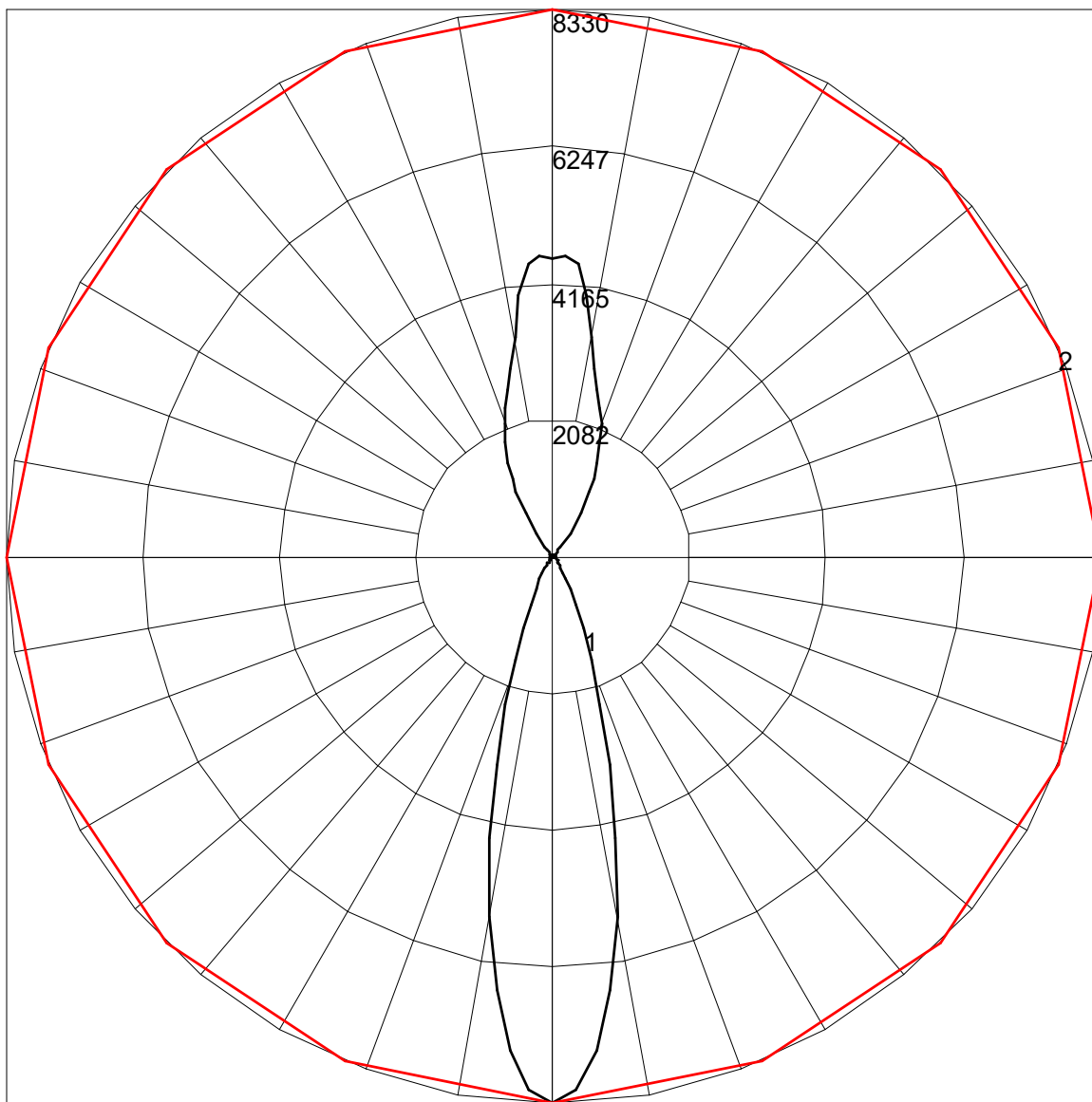
IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_27_16-MERGED.IES

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	5.3	5.5	5.9	6.5	7.8	5.3	5.5	5.9	6.5	7.8
	3H	5.7	6.3	6.8	7.3	8.6	5.7	6.3	6.8	7.3	8.6
	4H	6.0	6.5	7.0	7.5	8.8	6.0	6.5	7.0	7.5	8.8
	6H	6.1	6.6	7.2	7.6	9.0	6.1	6.6	7.2	7.6	9.0
	8H	6.2	6.7	7.2	7.7	9.0	6.2	6.7	7.2	7.7	9.0
	12H	6.2	6.7	7.2	7.7	9.0	6.2	6.7	7.2	7.7	9.0
4H	2H	5.3	5.7	6.1	6.6	8.0	5.3	5.7	6.1	6.6	8.0
	3H	6.1	6.6	7.2	7.6	8.9	6.1	6.6	7.2	7.6	8.9
	4H	6.5	6.9	7.5	7.9	9.2	6.5	6.9	7.5	7.9	9.2
	6H	6.7	7.1	7.8	8.1	9.5	6.7	7.1	7.8	8.1	9.5
	8H	6.8	7.1	7.9	8.2	9.5	6.8	7.1	7.9	8.2	9.5
	12H	6.8	7.1	7.9	8.2	9.6	6.8	7.1	7.9	8.2	9.6
8H	4H	6.5	6.8	7.6	7.9	9.2	6.5	6.8	7.6	7.9	9.2
	6H	6.9	7.1	7.9	8.2	9.6	6.9	7.1	7.9	8.2	9.6
	8H	7.0	7.3	8.1	8.3	9.7	7.0	7.3	8.1	8.3	9.7
	12H	7.1	7.3	8.2	8.4	9.8	7.1	7.3	8.2	8.4	9.8
12H	4H	6.5	6.8	7.5	7.8	9.2	6.5	6.8	7.5	7.8	9.2
	6H	6.9	7.1	7.9	8.2	9.5	6.9	7.1	7.9	8.2	9.5
	8H	7.1	7.2	8.1	8.3	9.7	7.1	7.2	8.1	8.3	9.7

Maximum UGR = 9.8

POLAR GRAPH



Maximum Candela = 8329.553 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)