



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-16_29_23-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.07

[TESTLAB]

[ISSUEDATE] 5-MAR-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-L25-9DW-L25-9DWD-DIM-UNV-OM-CSU-LW-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	4370
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	58
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	29603	29603	29603
55	24645	24645	24645
65	18723	18723	18723
75	13578	13578	13578
85	8849	8849	8849

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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	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049
2.5	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301
5.0	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710
7.5	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604
10.0	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856
12.5	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371
15.0	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042
17.5	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509
20.0	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092
22.5	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804
25.0	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449
27.5	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513
30.0	856.268	856.268	856.268	856.268	856.268	856.268	856.268	856.268	856.268	856.268
32.5	696.295	696.295	696.295	696.295	696.295	696.295	696.295	696.295	696.295	696.295
35.0	571.389	571.389	571.389	571.389	571.389	571.389	571.389	571.389	571.389	571.389
37.5	495.548	495.548	495.548	495.548	495.548	495.548	495.548	495.548	495.548	495.548
40.0	448.113	448.113	448.113	448.113	448.113	448.113	448.113	448.113	448.113	448.113
42.5	413.047	413.047	413.047	413.047	413.047	413.047	413.047	413.047	413.047	413.047
45.0	382.194	382.194	382.194	382.194	382.194	382.194	382.194	382.194	382.194	382.194
47.5	352.293	352.293	352.293	352.293	352.293	352.293	352.293	352.293	352.293	352.293
50.0	321.440	321.440	321.440	321.440	321.440	321.440	321.440	321.440	321.440	321.440
52.5	289.772	289.772	289.772	289.772	289.772	289.772	289.772	289.772	289.772	289.772
55.0	258.104	258.104	258.104	258.104	258.104	258.104	258.104	258.104	258.104	258.104
57.5	227.115	227.115	227.115	227.115	227.115	227.115	227.115	227.115	227.115	227.115
60.0	197.077	197.077	197.077	197.077	197.077	197.077	197.077	197.077	197.077	197.077
62.5	169.623	169.623	169.623	169.623	169.623	169.623	169.623	169.623	169.623	169.623
65.0	144.478	144.478	144.478	144.478	144.478	144.478	144.478	144.478	144.478	144.478
67.5	121.196	121.196	121.196	121.196	121.196	121.196	121.196	121.196	121.196	121.196
70.0	99.599	99.599	99.599	99.599	99.599	99.599	99.599	99.599	99.599	99.599
72.5	80.625	80.625	80.625	80.625	80.625	80.625	80.625	80.625	80.625	80.625
75.0	64.166	64.166	64.166	64.166	64.166	64.166	64.166	64.166	64.166	64.166
77.5	49.609	49.609	49.609	49.609	49.609	49.609	49.609	49.609	49.609	49.609
80.0	36.670	36.670	36.670	36.670	36.670	36.670	36.670	36.670	36.670	36.670
82.5	24.913	24.913	24.913	24.913	24.913	24.913	24.913	24.913	24.913	24.913
85.0	14.081	14.081	14.081	14.081	14.081	14.081	14.081	14.081	14.081	14.081
87.5	4.907	4.907	4.907	4.907	4.907	4.907	4.907	4.907	4.907	4.907
90.0	0.874	0.874	0.874	0.874	0.874	0.874	0.874	0.874	0.874	0.874
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	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049	1350.049
2.5	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301	1342.301
5.0	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710	1328.710
7.5	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604	1319.604
10.0	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856	1311.856
12.5	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371	1307.371
15.0	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042	1297.042
17.5	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509	1279.509
20.0	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092	1254.092
22.5	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804	1203.804
25.0	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449	1118.449
27.5	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513	1002.513
30.0	856.268	856.268	856.268	856.268	856.268	856.268	856.268
32.5	696.295	696.295	696.295	696.295	696.295	696.295	696.295
35.0	571.389	571.389	571.389	571.389	571.389	571.389	571.389
37.5	495.548	495.548	495.548	495.548	495.548	495.548	495.548
40.0	448.113	448.113	448.113	448.113	448.113	448.113	448.113
42.5	413.047	413.047	413.047	413.047	413.047	413.047	413.047
45.0	382.194	382.194	382.194	382.194	382.194	382.194	382.194
47.5	352.293	352.293	352.293	352.293	352.293	352.293	352.293
50.0	321.440	321.440	321.440	321.440	321.440	321.440	321.440
52.5	289.772	289.772	289.772	289.772	289.772	289.772	289.772
55.0	258.104	258.104	258.104	258.104	258.104	258.104	258.104
57.5	227.115	227.115	227.115	227.115	227.115	227.115	227.115
60.0	197.077	197.077	197.077	197.077	197.077	197.077	197.077
62.5	169.623	169.623	169.623	169.623	169.623	169.623	169.623
65.0	144.478	144.478	144.478	144.478	144.478	144.478	144.478
67.5	121.196	121.196	121.196	121.196	121.196	121.196	121.196
70.0	99.599	99.599	99.599	99.599	99.599	99.599	99.599
72.5	80.625	80.625	80.625	80.625	80.625	80.625	80.625
75.0	64.166	64.166	64.166	64.166	64.166	64.166	64.166
77.5	49.609	49.609	49.609	49.609	49.609	49.609	49.609
80.0	36.670	36.670	36.670	36.670	36.670	36.670	36.670

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CANDELA TABULATION - (Cont.)

82.5	24.913	24.913	24.913	24.913	24.913	24.913	24.913
85.0	14.081	14.081	14.081	14.081	14.081	14.081	14.081
87.5	4.907	4.907	4.907	4.907	4.907	4.907	4.907
90.0	0.874	0.874	0.874	0.874	0.874	0.874	0.874
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	491.72	N.A.	11.30
0-30	993.15	N.A.	22.70
0-40	1367.51	N.A.	31.30
0-60	1893.77	N.A.	43.30
0-80	2107.18	N.A.	48.20
0-90	2124.22	N.A.	48.60
10-90	1997.84	N.A.	45.70
20-40	875.79	N.A.	20.00
20-50	1171.15	N.A.	26.80
40-70	670.48	N.A.	15.30
60-80	213.41	N.A.	4.90
70-80	69.19	N.A.	1.60
80-90	17.05	N.A.	0.40
90-110	1.94	N.A.	0.00
90-120	6.68	N.A.	0.20
90-130	21.75	N.A.	0.50
90-150	381.13	N.A.	8.70
90-180	2245.81	N.A.	51.40
110-180	2243.87	N.A.	51.30
0-180	4370.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	126.38
10-20	365.34
20-30	501.42
30-40	374.37
40-50	295.36
50-60	230.90
60-70	144.22
70-80	69.19
80-90	17.05
90-100	0.49
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	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	95	91	88	91	87	84	82	74	72	70	61	60	59	50	49	48	43
2	91	84	78	74	83	78	73	69	66	63	60	55	53	51	45	44	42	38
3	83	75	68	63	77	69	63	59	59	55	51	50	47	44	41	39	37	33
4	77	67	60	54	71	62	56	51	53	49	45	45	42	39	38	35	33	30
5	71	60	53	47	66	56	50	45	49	43	40	41	38	35	35	32	30	27
6	66	55	47	42	61	51	44	40	44	39	35	38	34	31	32	29	27	24
7	61	50	42	37	57	47	40	35	41	35	32	35	31	28	30	27	25	22
8	57	46	38	33	53	43	36	32	37	32	29	32	28	26	28	25	22	20
9	53	42	35	30	50	39	33	29	35	30	26	30	26	23	26	23	21	19
10	50	39	32	27	47	37	30	26	32	27	24	28	24	21	24	21	19	17

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-16_29_23-MERGED.IES

UGR TABLE - CORRECTED

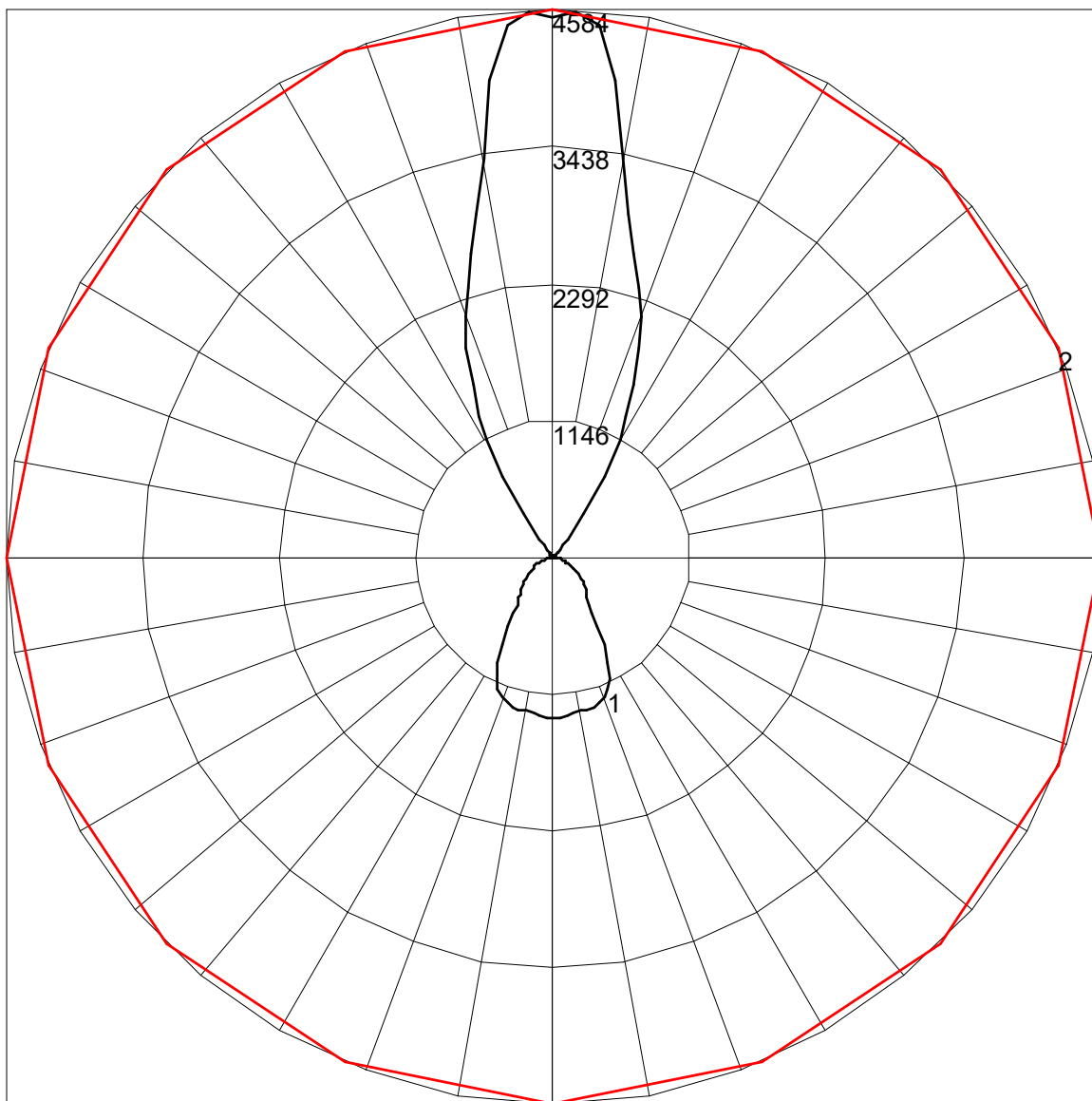
Reflectances

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	16.9	17.7	17.9	18.7	20.0	16.9	17.7	17.9	18.7	20.0
	3H	18.1	18.8	19.1	19.8	21.1	18.1	18.8	19.1	19.8	21.1
	4H	18.5	19.1	19.5	20.1	21.4	18.5	19.1	19.5	20.1	21.4
	6H	18.7	19.3	19.7	20.3	21.7	18.7	19.3	19.7	20.3	21.7
	8H	18.8	19.3	19.8	20.4	21.7	18.8	19.3	19.8	20.4	21.7
	12H	18.8	19.3	19.8	20.3	21.7	18.8	19.3	19.8	20.3	21.7
4H	2H	17.3	17.9	18.3	18.9	20.3	17.3	17.9	18.3	18.9	20.3
	3H	18.6	19.2	19.7	20.2	21.5	18.6	19.2	19.7	20.2	21.5
	4H	19.1	19.6	20.1	20.6	22.0	19.1	19.6	20.1	20.6	22.0
	6H	19.5	19.9	20.5	20.9	22.3	19.5	19.9	20.5	20.9	22.3
	8H	19.6	19.9	20.6	21.0	22.4	19.6	19.9	20.6	21.0	22.4
	12H	19.6	19.9	20.7	21.0	22.4	19.6	19.9	20.7	21.0	22.4
8H	4H	19.2	19.6	20.3	20.7	22.0	19.2	19.6	20.3	20.7	22.0
	6H	19.7	20.0	20.8	21.1	22.5	19.7	20.0	20.8	21.1	22.5
	8H	19.8	20.1	20.9	21.2	22.6	19.8	20.1	20.9	21.2	22.6
	12H	19.9	20.2	21.0	21.2	22.7	19.9	20.2	21.0	21.2	22.7
12H	4H	19.2	19.6	20.3	20.6	22.0	19.2	19.6	20.3	20.6	22.0
	6H	19.7	20.0	20.7	21.0	22.4	19.7	20.0	20.7	21.0	22.4
	8H	19.9	20.1	20.9	21.2	22.6	19.9	20.1	20.9	21.2	22.6

Maximum UGR = 22.7

POLAR GRAPH



Maximum Candela = 4584.272 Located At Horizontal Angle = 0, Vertical Angle = 177.5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)