



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_39_135-10_24_29-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from UL #12326812.04
 [TESTLAB]
 [ISSUE DATE] 15-MAR-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 8CRDI-TL-L25-9DWU-L25-9DWD-DIM-UNV-OM-CSU-RM-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	4481
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	59
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	7344	7344	7344
55	4938	4938	4938
65	3675	3675	3675
75	2538	2538	2538
85	2120	2120	2120

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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	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618
2.5	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410
5.0	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272
7.5	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201
10.0	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713
12.5	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817
15.0	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003
17.5	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215
20.0	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899
22.5	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010
25.0	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287
27.5	758.364	758.364	758.364	758.364	758.364	758.364	758.364	758.364	758.364	758.364
30.0	544.883	544.883	544.883	544.883	544.883	544.883	544.883	544.883	544.883	544.883
32.5	391.361	391.361	391.361	391.361	391.361	391.361	391.361	391.361	391.361	391.361
35.0	280.436	280.436	280.436	280.436	280.436	280.436	280.436	280.436	280.436	280.436
37.5	202.613	202.613	202.613	202.613	202.613	202.613	202.613	202.613	202.613	202.613
40.0	150.648	150.648	150.648	150.648	150.648	150.648	150.648	150.648	150.648	150.648
42.5	117.171	117.171	117.171	117.171	117.171	117.171	117.171	117.171	117.171	117.171
45.0	94.811	94.811	94.811	94.811	94.811	94.811	94.811	94.811	94.811	94.811
47.5	79.322	79.322	79.322	79.322	79.322	79.322	79.322	79.322	79.322	79.322
50.0	67.954	67.954	67.954	67.954	67.954	67.954	67.954	67.954	67.954	67.954
52.5	59.085	59.085	59.085	59.085	59.085	59.085	59.085	59.085	59.085	59.085
55.0	51.715	51.715	51.715	51.715	51.715	51.715	51.715	51.715	51.715	51.715
57.5	45.220	45.220	45.220	45.220	45.220	45.220	45.220	45.220	45.220	45.220
60.0	39.224	39.224	39.224	39.224	39.224	39.224	39.224	39.224	39.224	39.224
62.5	33.602	33.602	33.602	33.602	33.602	33.602	33.602	33.602	33.602	33.602
65.0	28.356	28.356	28.356	28.356	28.356	28.356	28.356	28.356	28.356	28.356
67.5	23.484	23.484	23.484	23.484	23.484	23.484	23.484	23.484	23.484	23.484
70.0	18.987	18.987	18.987	18.987	18.987	18.987	18.987	18.987	18.987	18.987
72.5	14.990	14.990	14.990	14.990	14.990	14.990	14.990	14.990	14.990	14.990
75.0	11.992	11.992	11.992	11.992	11.992	11.992	11.992	11.992	11.992	11.992
77.5	9.494	9.494	9.494	9.494	9.494	9.494	9.494	9.494	9.494	9.494
80.0	7.370	7.370	7.370	7.370	7.370	7.370	7.370	7.370	7.370	7.370
82.5	5.371	5.371	5.371	5.371	5.371	5.371	5.371	5.371	5.371	5.371
85.0	3.373	3.373	3.373	3.373	3.373	3.373	3.373	3.373	3.373	3.373
87.5	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624
90.0	0.612	0.612	0.612	0.612	0.612	0.612	0.612	0.612	0.612	0.612
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	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618	5387.618
2.5	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410	5326.410
5.0	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272	5160.272
7.5	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201	4894.201
10.0	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713	4505.713
12.5	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817	3979.817
15.0	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003	3334.003
17.5	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215	2648.215
20.0	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899	2004.899
22.5	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010	1469.010
25.0	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287	1057.287
27.5	758.364	758.364	758.364	758.364	758.364	758.364	758.364
30.0	544.883	544.883	544.883	544.883	544.883	544.883	544.883
32.5	391.361	391.361	391.361	391.361	391.361	391.361	391.361
35.0	280.436	280.436	280.436	280.436	280.436	280.436	280.436
37.5	202.613	202.613	202.613	202.613	202.613	202.613	202.613
40.0	150.648	150.648	150.648	150.648	150.648	150.648	150.648
42.5	117.171	117.171	117.171	117.171	117.171	117.171	117.171
45.0	94.811	94.811	94.811	94.811	94.811	94.811	94.811
47.5	79.322	79.322	79.322	79.322	79.322	79.322	79.322
50.0	67.954	67.954	67.954	67.954	67.954	67.954	67.954
52.5	59.085	59.085	59.085	59.085	59.085	59.085	59.085
55.0	51.715	51.715	51.715	51.715	51.715	51.715	51.715
57.5	45.220	45.220	45.220	45.220	45.220	45.220	45.220
60.0	39.224	39.224	39.224	39.224	39.224	39.224	39.224
62.5	33.602	33.602	33.602	33.602	33.602	33.602	33.602
65.0	28.356	28.356	28.356	28.356	28.356	28.356	28.356
67.5	23.484	23.484	23.484	23.484	23.484	23.484	23.484
70.0	18.987	18.987	18.987	18.987	18.987	18.987	18.987
72.5	14.990	14.990	14.990	14.990	14.990	14.990	14.990
75.0	11.992	11.992	11.992	11.992	11.992	11.992	11.992
77.5	9.494	9.494	9.494	9.494	9.494	9.494	9.494
80.0	7.370	7.370	7.370	7.370	7.370	7.370	7.370

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CANDELA TABULATION - (Cont.)

82.5	5.371	5.371	5.371	5.371	5.371	5.371	5.371
85.0	3.373	3.373	3.373	3.373	3.373	3.373	3.373
87.5	1.624	1.624	1.624	1.624	1.624	1.624	1.624
90.0	0.612	0.612	0.612	0.612	0.612	0.612	0.612
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	1371.72	N.A.	30.60
0-30	1879.75	N.A.	41.90
0-40	2066.94	N.A.	46.10
0-60	2190.42	N.A.	48.90
0-80	2231.81	N.A.	49.80
0-90	2235.72	N.A.	49.90
10-90	1763.64	N.A.	39.40
20-40	695.22	N.A.	15.50
20-50	771.93	N.A.	17.20
40-70	151.78	N.A.	3.40
60-80	41.39	N.A.	0.90
70-80	13.09	N.A.	0.30
80-90	3.91	N.A.	0.10
90-110	1.91	N.A.	0.00
90-120	6.65	N.A.	0.10
90-130	21.71	N.A.	0.50
90-150	381.10	N.A.	8.50
90-180	2245.77	N.A.	50.10
110-180	2243.87	N.A.	50.10
0-180	4481.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	472.08
10-20	899.64
20-30	508.03
30-40	187.19
40-50	76.71
50-60	46.77
60-70	28.30
70-80	13.09
80-90	3.91
90-100	0.45
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	100	97	94	91	93	90	87	85	77	75	74	65	64	63	53	53	52	47
2	94	88	84	80	87	82	78	75	71	68	66	61	59	57	51	50	49	45
3	88	81	75	71	82	76	71	67	66	63	60	57	55	53	48	47	46	42
4	83	75	68	64	77	70	65	61	62	58	55	54	51	49	46	45	43	40
5	78	69	63	58	73	65	60	56	58	54	51	51	48	46	44	42	41	38
6	74	64	58	53	69	61	55	51	54	50	47	48	45	43	42	40	39	36
7	70	60	54	49	65	57	51	48	51	47	44	46	43	40	41	39	37	35
8	66	56	50	46	62	54	48	44	48	44	41	44	40	38	39	37	35	33
9	63	53	47	43	59	51	45	42	46	42	39	42	39	36	37	35	34	32
10	60	50	44	41	56	48	43	39	44	40	37	40	37	35	36	34	32	31

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_39_135-10_24_29-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

X=2H	Y=2H	5.8	6.4	6.8	7.4	8.7	5.8	6.4	6.8	7.4	8.7
	3H	6.9	7.4	7.9	8.4	9.8	6.9	7.4	7.9	8.4	9.8
	4H	7.2	7.7	8.2	8.7	10.0	7.2	7.7	8.2	8.7	10.0
	6H	7.4	7.9	8.4	8.9	10.2	7.4	7.9	8.4	8.9	10.2
	8H	7.5	7.9	8.5	9.0	10.3	7.5	7.9	8.5	9.0	10.3
	12H	7.5	8.0	8.6	9.0	10.3	7.5	8.0	8.6	9.0	10.3

UGR Viewed Endwise

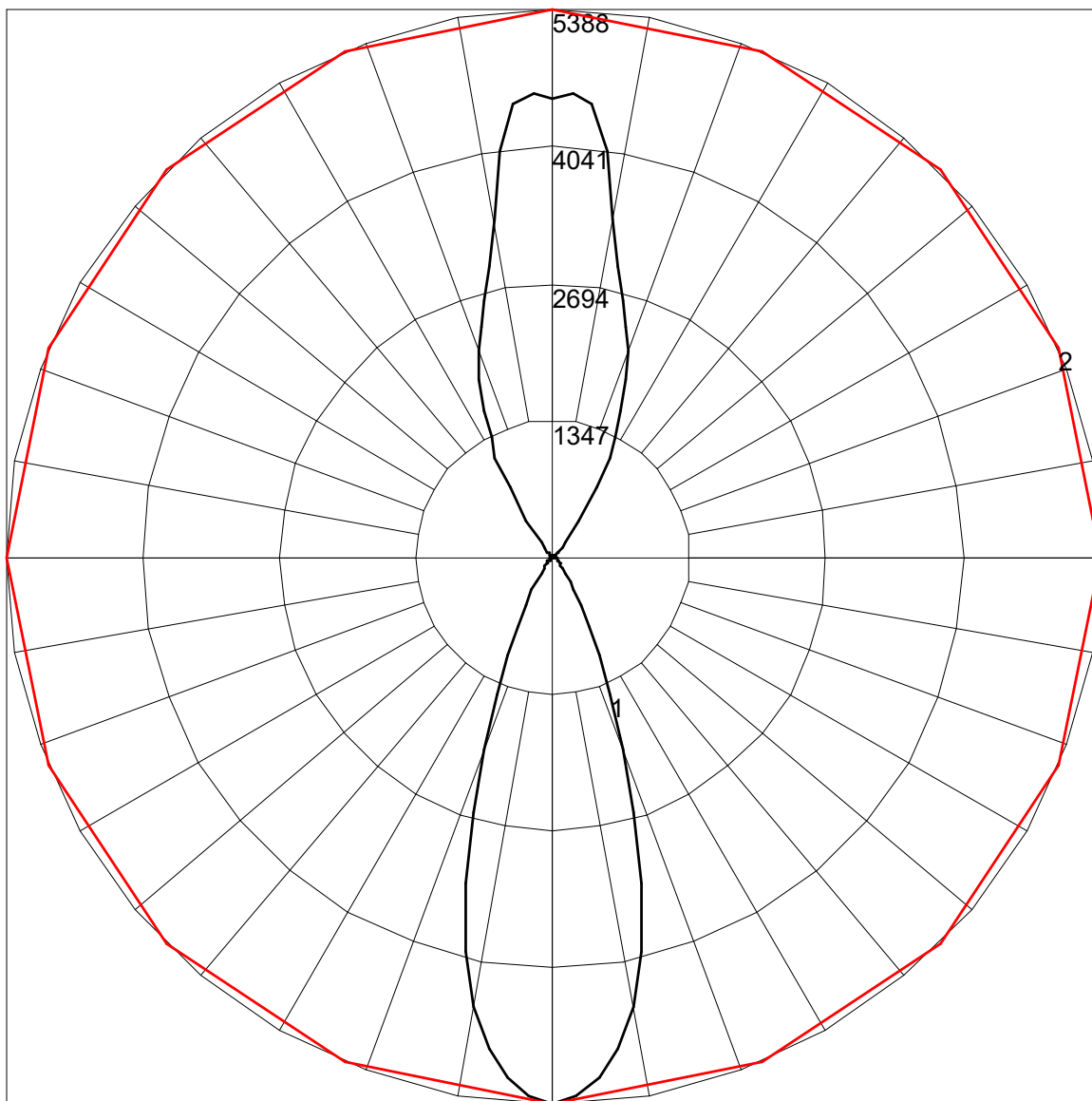
4H	2H	6.1	6.6	7.1	7.6	9.0	6.1	6.6	7.1	7.6	9.0
	3H	7.3	7.8	8.4	8.8	10.1	7.3	7.8	8.4	8.8	10.1
	4H	7.7	8.2	8.8	9.2	10.5	7.7	8.2	8.8	9.2	10.5
	6H	8.1	8.4	9.1	9.5	10.8	8.1	8.4	9.1	9.5	10.8
	8H	8.2	8.5	9.2	9.6	10.9	8.2	8.5	9.2	9.6	10.9
	12H	8.3	8.6	9.3	9.6	11.0	8.3	8.6	9.3	9.6	11.0

8H	4H	7.8	8.2	8.9	9.2	10.6	7.8	8.2	8.9	9.2	10.6
	6H	8.3	8.6	9.4	9.6	11.0	8.3	8.6	9.4	9.6	11.0
	8H	8.5	8.7	9.6	9.8	11.2	8.5	8.7	9.6	9.8	11.2
	12H	8.6	8.8	9.7	9.9	11.3	8.6	8.8	9.7	9.9	11.3

12H	4H	7.8	8.1	8.9	9.2	10.5	7.8	8.1	8.9	9.2	10.5
	6H	8.3	8.5	9.4	9.6	11.0	8.3	8.5	9.4	9.6	11.0
	8H	8.5	8.7	9.6	9.8	11.2	8.5	8.7	9.6	9.8	11.2

Maximum UGR = 11.3

POLAR GRAPH



Maximum Candela = 5387.618 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.)