



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192_168_37_234-16_3_19-MERGED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.07

[TESTLAB]

[ISSUE DATE] 25-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

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

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

[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	4684
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
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	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936	0.936
92.5	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242
95.0	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363
97.5	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
100.0	0.727	0.727	0.727	0.727	0.727	0.727	0.727	0.727	0.727	0.727
102.5	0.969	0.969	0.969	0.969	0.969	0.969	0.969	0.969	0.969	0.969
105.0	1.332	1.332	1.332	1.332	1.332	1.332	1.332	1.332	1.332	1.332
107.5	1.938	1.938	1.938	1.938	1.938	1.938	1.938	1.938	1.938	1.938
110.0	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.664
112.5	3.512	3.512	3.512	3.512	3.512	3.512	3.512	3.512	3.512	3.512
115.0	4.844	4.844	4.844	4.844	4.844	4.844	4.844	4.844	4.844	4.844
117.5	6.539	6.539	6.539	6.539	6.539	6.539	6.539	6.539	6.539	6.539
120.0	8.840	8.840	8.840	8.840	8.840	8.840	8.840	8.840	8.840	8.840
122.5	12.110	12.110	12.110	12.110	12.110	12.110	12.110	12.110	12.110	12.110
125.0	16.712	16.712	16.712	16.712	16.712	16.712	16.712	16.712	16.712	16.712
127.5	23.493	23.493	23.493	23.493	23.493	23.493	23.493	23.493	23.493	23.493
130.0	32.455	32.455	32.455	32.455	32.455	32.455	32.455	32.455	32.455	32.455
132.5	43.353	43.353	43.353	43.353	43.353	43.353	43.353	43.353	43.353	43.353

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135.0	55.947	55.947	55.947	55.947	55.947	55.947	55.947	55.947	55.947	55.947
137.5	79.077	79.077	79.077	79.077	79.077	79.077	79.077	79.077	79.077	79.077
140.0	140.232	140.232	140.232	140.232	140.232	140.232	140.232	140.232	140.232	140.232
142.5	208.895	208.895	208.895	208.895	208.895	208.895	208.895	208.895	208.895	208.895
145.0	478.944	478.944	478.944	478.944	478.944	478.944	478.944	478.944	478.944	478.944
147.5	861.250	861.250	861.250	861.250	861.250	861.250	861.250	861.250	861.250	861.250
150.0	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614
152.5	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325
155.0	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906
157.5	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605
160.0	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396
162.5	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327
165.0	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532
167.5	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395
170.0	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467
172.5	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627
175.0	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019
177.5	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006
180.0	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548

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	0.936	0.936	0.936	0.936	0.936	0.936	0.936
92.5	0.242	0.242	0.242	0.242	0.242	0.242	0.242
95.0	0.363	0.363	0.363	0.363	0.363	0.363	0.363
97.5	0.484	0.484	0.484	0.484	0.484	0.484	0.484
100.0	0.727	0.727	0.727	0.727	0.727	0.727	0.727
102.5	0.969	0.969	0.969	0.969	0.969	0.969	0.969
105.0	1.332	1.332	1.332	1.332	1.332	1.332	1.332
107.5	1.938	1.938	1.938	1.938	1.938	1.938	1.938
110.0	2.664	2.664	2.664	2.664	2.664	2.664	2.664
112.5	3.512	3.512	3.512	3.512	3.512	3.512	3.512
115.0	4.844	4.844	4.844	4.844	4.844	4.844	4.844
117.5	6.539	6.539	6.539	6.539	6.539	6.539	6.539
120.0	8.840	8.840	8.840	8.840	8.840	8.840	8.840
122.5	12.110	12.110	12.110	12.110	12.110	12.110	12.110
125.0	16.712	16.712	16.712	16.712	16.712	16.712	16.712
127.5	23.493	23.493	23.493	23.493	23.493	23.493	23.493
130.0	32.455	32.455	32.455	32.455	32.455	32.455	32.455
132.5	43.353	43.353	43.353	43.353	43.353	43.353	43.353
135.0	55.947	55.947	55.947	55.947	55.947	55.947	55.947
137.5	79.077	79.077	79.077	79.077	79.077	79.077	79.077
140.0	140.232	140.232	140.232	140.232	140.232	140.232	140.232
142.5	208.895	208.895	208.895	208.895	208.895	208.895	208.895
145.0	478.944	478.944	478.944	478.944	478.944	478.944	478.944
147.5	861.250	861.250	861.250	861.250	861.250	861.250	861.250
150.0	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614
152.5	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325
155.0	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906
157.5	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605
160.0	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396
162.5	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327
165.0	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532
167.5	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395
170.0	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467
172.5	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627
175.0	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019
177.5	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006
180.0	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	526.46	N.A.	11.20
0-30	1063.32	N.A.	22.70
0-40	1464.13	N.A.	31.30
0-60	2027.57	N.A.	43.30
0-80	2256.06	N.A.	48.20
0-90	2274.31	N.A.	48.60
10-90	2139.00	N.A.	45.70
20-40	937.67	N.A.	20.00
20-50	1253.89	N.A.	26.80
40-70	717.85	N.A.	15.30
60-80	228.49	N.A.	4.90
70-80	74.08	N.A.	1.60
80-90	18.25	N.A.	0.40
90-110	2.09	N.A.	0.00
90-120	7.17	N.A.	0.20
90-130	23.33	N.A.	0.50
90-150	408.96	N.A.	8.70
90-180	2409.79	N.A.	51.40
110-180	2407.71	N.A.	51.40
0-180	4684.11	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	18.25
90-100	0.52
100-110	1.56
110-120	5.08
120-130	16.16
130-140	50.26
140-150	335.37
150-160	786.40
160-170	795.89
170-180	418.54

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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	62	59	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	48	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	27	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	36	30	26	32	27	24	28	24	21	24	21	19	17

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 192_168_37_234-16_3_19-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	17.1	17.9	18.1	18.9	20.2	17.1	17.9	18.1	18.9	20.2
	3H	18.3	19.0	19.3	20.0	21.3	18.3	19.0	19.3	20.0	21.3
	4H	18.7	19.3	19.7	20.3	21.6	18.7	19.3	19.7	20.3	21.6
	6H	18.9	19.5	19.9	20.5	21.8	18.9	19.5	19.9	20.5	21.8
	8H	19.0	19.5	20.0	20.5	21.9	19.0	19.5	20.0	20.5	21.9
	12H	19.0	19.5	20.0	20.5	21.9	19.0	19.5	20.0	20.5	21.9

UGR Viewed Endwise

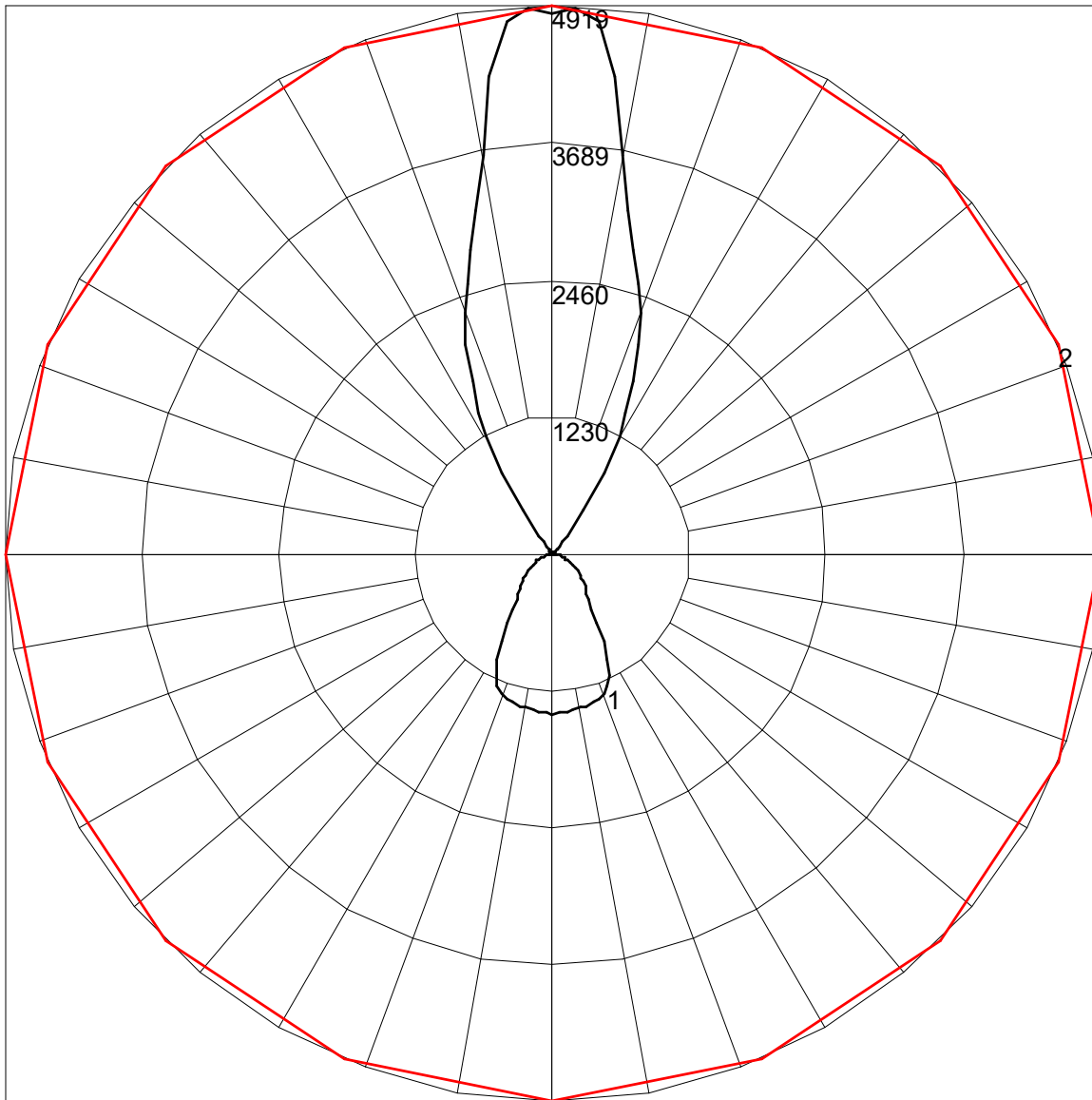
4H	2H	17.5	18.1	18.5	19.1	20.5	17.5	18.1	18.5	19.1	20.5
	3H	18.8	19.4	19.8	20.4	21.7	18.8	19.4	19.8	20.4	21.7
	4H	19.3	19.8	20.3	20.8	22.2	19.3	19.8	20.3	20.8	22.2
	6H	19.6	20.1	20.7	21.1	22.5	19.6	20.1	20.7	21.1	22.5
	8H	19.7	20.1	20.8	21.2	22.6	19.7	20.1	20.8	21.2	22.6
	12H	19.8	20.1	20.8	21.2	22.6	19.8	20.1	20.8	21.2	22.6

8H	4H	19.4	19.8	20.5	20.9	22.2	19.4	19.8	20.5	20.9	22.2
	6H	19.9	20.2	20.9	21.3	22.6	19.9	20.2	20.9	21.3	22.6
	8H	20.0	20.3	21.1	21.4	22.8	20.0	20.3	21.1	21.4	22.8
	12H	20.1	20.4	21.2	21.4	22.9	20.1	20.4	21.2	21.4	22.9

12H	4H	19.4	19.7	20.5	20.8	22.2	19.4	19.7	20.5	20.8	22.2
	6H	19.9	20.2	20.9	21.2	22.6	19.9	20.2	20.9	21.2	22.6
	8H	20.1	20.3	21.1	21.4	22.8	20.1	20.3	21.1	21.4	22.8

Maximum UGR = 22.9

POLAR GRAPH



Maximum Candela = 4919.006 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.)