



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-LW-WHD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 and #12326812.07

[TESTLAB]

[ISSUE DATE] 17-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-L20-835U-L20-835D-xxx-DIM1-UNV-ON-CSU-LW-WHD-WM

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

[MORE] wide distrib flush prismatic lens trim down

[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	3604
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	38.0038
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	21780	21780	21780
55	18133	18133	18133
65	13776	13776	13776
75	9990	9990	9990
85	6510	6510	6510

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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	993.300	993.300	993.300	993.300	993.300	993.300	993.300	993.300	993.300	993.300
2.5	987.600	987.600	987.600	987.600	987.600	987.600	987.600	987.600	987.600	987.600
5.0	977.600	977.600	977.600	977.600	977.600	977.600	977.600	977.600	977.600	977.600
7.5	970.900	970.900	970.900	970.900	970.900	970.900	970.900	970.900	970.900	970.900
10.0	965.200	965.200	965.200	965.200	965.200	965.200	965.200	965.200	965.200	965.200
12.5	961.900	961.900	961.900	961.900	961.900	961.900	961.900	961.900	961.900	961.900
15.0	954.300	954.300	954.300	954.300	954.300	954.300	954.300	954.300	954.300	954.300
17.5	941.400	941.400	941.400	941.400	941.400	941.400	941.400	941.400	941.400	941.400
20.0	922.700	922.700	922.700	922.700	922.700	922.700	922.700	922.700	922.700	922.700
22.5	885.700	885.700	885.700	885.700	885.700	885.700	885.700	885.700	885.700	885.700
25.0	822.900	822.900	822.900	822.900	822.900	822.900	822.900	822.900	822.900	822.900
27.5	737.600	737.600	737.600	737.600	737.600	737.600	737.600	737.600	737.600	737.600
30.0	630.000	630.000	630.000	630.000	630.000	630.000	630.000	630.000	630.000	630.000
32.5	512.300	512.300	512.300	512.300	512.300	512.300	512.300	512.300	512.300	512.300
35.0	420.400	420.400	420.400	420.400	420.400	420.400	420.400	420.400	420.400	420.400
37.5	364.600	364.600	364.600	364.600	364.600	364.600	364.600	364.600	364.600	364.600
40.0	329.700	329.700	329.700	329.700	329.700	329.700	329.700	329.700	329.700	329.700
42.5	303.900	303.900	303.900	303.900	303.900	303.900	303.900	303.900	303.900	303.900
45.0	281.200	281.200	281.200	281.200	281.200	281.200	281.200	281.200	281.200	281.200
47.5	259.200	259.200	259.200	259.200	259.200	259.200	259.200	259.200	259.200	259.200
50.0	236.500	236.500	236.500	236.500	236.500	236.500	236.500	236.500	236.500	236.500
52.5	213.200	213.200	213.200	213.200	213.200	213.200	213.200	213.200	213.200	213.200
55.0	189.900	189.900	189.900	189.900	189.900	189.900	189.900	189.900	189.900	189.900
57.5	167.100	167.100	167.100	167.100	167.100	167.100	167.100	167.100	167.100	167.100
60.0	145.000	145.000	145.000	145.000	145.000	145.000	145.000	145.000	145.000	145.000
62.5	124.800	124.800	124.800	124.800	124.800	124.800	124.800	124.800	124.800	124.800
65.0	106.300	106.300	106.300	106.300	106.300	106.300	106.300	106.300	106.300	106.300
67.5	89.170	89.170	89.170	89.170	89.170	89.170	89.170	89.170	89.170	89.170
70.0	73.280	73.280	73.280	73.280	73.280	73.280	73.280	73.280	73.280	73.280
72.5	59.320	59.320	59.320	59.320	59.320	59.320	59.320	59.320	59.320	59.320
75.0	47.210	47.210	47.210	47.210	47.210	47.210	47.210	47.210	47.210	47.210
77.5	36.500	36.500	36.500	36.500	36.500	36.500	36.500	36.500	36.500	36.500
80.0	26.980	26.980	26.980	26.980	26.980	26.980	26.980	26.980	26.980	26.980
82.5	18.330	18.330	18.330	18.330	18.330	18.330	18.330	18.330	18.330	18.330
85.0	10.360	10.360	10.360	10.360	10.360	10.360	10.360	10.360	10.360	10.360
87.5	3.610	3.610	3.610	3.610	3.610	3.610	3.610	3.610	3.610	3.610
90.0	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560
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	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
110.0	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
112.5	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
115.0	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989	0.989
117.5	1.978	1.978	1.978	1.978	1.978	1.978	1.978	1.978	1.978	1.978
120.0	1.978	1.978	1.978	1.978	1.978	1.978	1.978	1.978	1.978	1.978
122.5	2.967	2.967	2.967	2.967	2.967	2.967	2.967	2.967	2.967	2.967
125.0	3.956	3.956	3.956	3.956	3.956	3.956	3.956	3.956	3.956	3.956
127.5	4.945	4.945	4.945	4.945	4.945	4.945	4.945	4.945	4.945	4.945
130.0	7.912	7.912	7.912	7.912	7.912	7.912	7.912	7.912	7.912	7.912
132.5	9.890	9.890	9.890	9.890	9.890	9.890	9.890	9.890	9.890	9.890

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CANDELA TABULATION - (Cont.)

135.0	12.857	12.857	12.857	12.857	12.857	12.857	12.857	12.857	12.857	12.857
137.5	16.813	16.813	16.813	16.813	16.813	16.813	16.813	16.813	16.813	16.813
140.0	20.769	20.769	20.769	20.769	20.769	20.769	20.769	20.769	20.769	20.769
142.5	37.582	37.582	37.582	37.582	37.582	37.582	37.582	37.582	37.582	37.582
145.0	239.338	239.338	239.338	239.338	239.338	239.338	239.338	239.338	239.338	239.338
147.5	536.038	536.038	536.038	536.038	536.038	536.038	536.038	536.038	536.038	536.038
150.0	746.695	746.695	746.695	746.695	746.695	746.695	746.695	746.695	746.695	746.695
152.5	813.947	813.947	813.947	813.947	813.947	813.947	813.947	813.947	813.947	813.947
155.0	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769
157.5	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491
160.0	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862
162.5	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728
165.0	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648
167.5	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192
170.0	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214
172.5	5470.167	5470.167	5470.167	5470.167	5470.167	5470.166	5470.166	5470.166	5470.166	5470.166
175.0	9721.889	9721.889	9721.889	9721.889	9721.889	9721.887	9721.887	9721.887	9721.887	9721.887
177.5	17139.385	17139.385	17139.385	17139.385	17139.384	17139.384	17139.384	17139.383	17139.383	17139.383
180.0	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000

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	993.300	993.300	993.300	993.300	993.300	993.300	993.300
2.5	987.600	987.600	987.600	987.600	987.600	987.600	987.600
5.0	977.600	977.600	977.600	977.600	977.600	977.600	977.600
7.5	970.900	970.900	970.900	970.900	970.900	970.900	970.900
10.0	965.200	965.200	965.200	965.200	965.200	965.200	965.200
12.5	961.900	961.900	961.900	961.900	961.900	961.900	961.900
15.0	954.300	954.300	954.300	954.300	954.300	954.300	954.300
17.5	941.400	941.400	941.400	941.400	941.400	941.400	941.400
20.0	922.700	922.700	922.700	922.700	922.700	922.700	922.700
22.5	885.700	885.700	885.700	885.700	885.700	885.700	885.700
25.0	822.900	822.900	822.900	822.900	822.900	822.900	822.900
27.5	737.600	737.600	737.600	737.600	737.600	737.600	737.600
30.0	630.000	630.000	630.000	630.000	630.000	630.000	630.000
32.5	512.300	512.300	512.300	512.300	512.300	512.300	512.300
35.0	420.400	420.400	420.400	420.400	420.400	420.400	420.400
37.5	364.600	364.600	364.600	364.600	364.600	364.600	364.600
40.0	329.700	329.700	329.700	329.700	329.700	329.700	329.700
42.5	303.900	303.900	303.900	303.900	303.900	303.900	303.900
45.0	281.200	281.200	281.200	281.200	281.200	281.200	281.200
47.5	259.200	259.200	259.200	259.200	259.200	259.200	259.200
50.0	236.500	236.500	236.500	236.500	236.500	236.500	236.500
52.5	213.200	213.200	213.200	213.200	213.200	213.200	213.200
55.0	189.900	189.900	189.900	189.900	189.900	189.900	189.900
57.5	167.100	167.100	167.100	167.100	167.100	167.100	167.100
60.0	145.000	145.000	145.000	145.000	145.000	145.000	145.000
62.5	124.800	124.800	124.800	124.800	124.800	124.800	124.800
65.0	106.300	106.300	106.300	106.300	106.300	106.300	106.300
67.5	89.170	89.170	89.170	89.170	89.170	89.170	89.170
70.0	73.280	73.280	73.280	73.280	73.280	73.280	73.280
72.5	59.320	59.320	59.320	59.320	59.320	59.320	59.320
75.0	47.210	47.210	47.210	47.210	47.210	47.210	47.210
77.5	36.500	36.500	36.500	36.500	36.500	36.500	36.500
80.0	26.980	26.980	26.980	26.980	26.980	26.980	26.980

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82.5	18.330	18.330	18.330	18.330	18.330	18.330	18.330
85.0	10.360	10.360	10.360	10.360	10.360	10.360	10.360
87.5	3.610	3.610	3.610	3.610	3.610	3.610	3.610
90.0	0.560	0.560	0.560	0.560	0.560	0.560	0.560
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	0.989	0.989	0.989	0.989	0.989	0.989	0.989
110.0	0.989	0.989	0.989	0.989	0.989	0.989	0.989
112.5	0.989	0.989	0.989	0.989	0.989	0.989	0.989
115.0	0.989	0.989	0.989	0.989	0.989	0.989	0.989
117.5	1.978	1.978	1.978	1.978	1.978	1.978	1.978
120.0	1.978	1.978	1.978	1.978	1.978	1.978	1.978
122.5	2.967	2.967	2.967	2.967	2.967	2.967	2.967
125.0	3.956	3.956	3.956	3.956	3.956	3.956	3.956
127.5	4.945	4.945	4.945	4.945	4.945	4.945	4.945
130.0	7.912	7.912	7.912	7.912	7.912	7.912	7.912
132.5	9.890	9.890	9.890	9.890	9.890	9.890	9.890
135.0	12.857	12.857	12.857	12.857	12.857	12.857	12.857
137.5	16.813	16.813	16.813	16.813	16.813	16.813	16.813
140.0	20.769	20.769	20.769	20.769	20.769	20.769	20.769
142.5	37.582	37.582	37.582	37.582	37.582	37.582	37.582
145.0	239.338	239.338	239.338	239.338	239.338	239.338	239.338
147.5	536.038	536.038	536.038	536.038	536.038	536.038	536.038
150.0	746.695	746.695	746.695	746.695	746.695	746.695	746.695
152.5	813.947	813.947	813.947	813.947	813.947	813.947	813.947
155.0	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769	1009.769
157.5	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491	1304.491
160.0	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862	1540.862
162.5	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728	1732.728
165.0	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648	2009.648
167.5	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192	2500.192
170.0	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214	3487.214
172.5	5470.166	5470.166	5470.167	5470.167	5470.167	5470.167	5470.167
175.0	9721.887	9721.887	9721.889	9721.889	9721.889	9721.889	9721.889
177.5	17139.383	17139.384	17139.384	17139.384	17139.385	17139.385	17139.385
180.0	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000	21758.000

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Zone	Lumens	%Lamp	%Fixt
0-20	361.78	N.A.	10.00
0-30	730.71	N.A.	20.30
0-40	1006.15	N.A.	27.90
0-60	1393.34	N.A.	38.70
0-80	1550.36	N.A.	43.00
0-90	1562.89	N.A.	43.40
10-90	1469.9	N.A.	40.80
20-40	644.36	N.A.	17.90
20-50	861.67	N.A.	23.90
40-70	493.30	N.A.	13.70
60-80	157.02	N.A.	4.40
70-80	50.91	N.A.	1.40
80-90	12.53	N.A.	0.30
90-110	0.46	N.A.	0.00
90-120	1.80	N.A.	0.00
90-130	5.53	N.A.	0.20
90-150	193.53	N.A.	5.40
90-180	2041.47	N.A.	56.60
110-180	2041.00	N.A.	56.60
0-180	3604.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	92.99
10-20	268.80
20-30	368.92
30-40	275.44
40-50	217.31
50-60	169.89
60-70	106.11
70-80	50.91
80-90	12.53
90-100	0.08
100-110	0.39
110-120	1.34
120-130	3.73
130-140	10.30
140-150	177.71
150-160	482.56
160-170	594.80
170-180	770.58

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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	97	93	90	87	89	86	83	80	71	69	67	58	56	55	46	45	44	38
2	89	83	77	72	82	76	71	67	63	60	57	52	50	48	41	40	38	34
3	82	73	67	61	75	68	62	57	57	53	49	47	44	41	38	36	34	30
4	76	66	58	53	69	61	54	50	51	47	43	42	39	36	34	32	30	26
5	70	59	52	46	64	55	48	43	46	42	38	39	35	32	31	29	27	24
6	65	54	46	41	59	50	43	38	42	37	34	35	32	29	29	26	24	22
7	60	49	41	36	55	45	39	34	39	34	30	33	29	26	27	24	22	20
8	56	45	37	32	51	41	35	31	36	31	27	30	26	24	25	22	20	18
9	52	41	34	29	48	38	32	28	33	28	25	28	24	22	23	21	19	17
10	49	38	31	26	45	35	29	25	31	26	22	26	22	20	22	19	17	15

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-LW-WHD-WM_.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	15.3	16.0	16.3	17.1	18.4	15.3	16.0	16.3	17.1	18.4
	3H	16.5	17.1	17.5	18.2	19.6	16.5	17.1	17.5	18.2	19.6
	4H	16.8	17.5	17.9	18.5	19.9	16.8	17.5	17.9	18.5	19.9
	6H	17.1	17.6	18.1	18.7	20.1	17.1	17.6	18.1	18.7	20.1
	8H	17.1	17.7	18.2	18.7	20.1	17.1	17.7	18.2	18.7	20.1
	12H	17.1	17.7	18.2	18.7	20.1	17.1	17.7	18.2	18.7	20.1

UGR Viewed Endwise

4H	2H	15.6	16.3	16.7	17.3	18.7	15.6	16.3	16.7	17.3	18.7
	3H	17.0	17.5	18.0	18.6	20.0	17.0	17.5	18.0	18.6	20.0
	4H	17.5	17.9	18.5	19.0	20.4	17.5	17.9	18.5	19.0	20.4
	6H	17.8	18.2	18.9	19.3	20.7	17.8	18.2	18.9	19.3	20.7
	8H	17.9	18.3	19.0	19.4	20.8	17.9	18.3	19.0	19.4	20.8
	12H	17.9	18.3	19.0	19.4	20.8	17.9	18.3	19.0	19.4	20.8

8H	4H	17.6	18.0	18.7	19.0	20.5	17.6	18.0	18.7	19.0	20.5
	6H	18.0	18.3	19.1	19.5	20.9	18.0	18.3	19.1	19.5	20.9
	8H	18.2	18.5	19.3	19.6	21.0	18.2	18.5	19.3	19.6	21.0
	12H	18.3	18.5	19.4	19.6	21.1	18.3	18.5	19.4	19.6	21.1

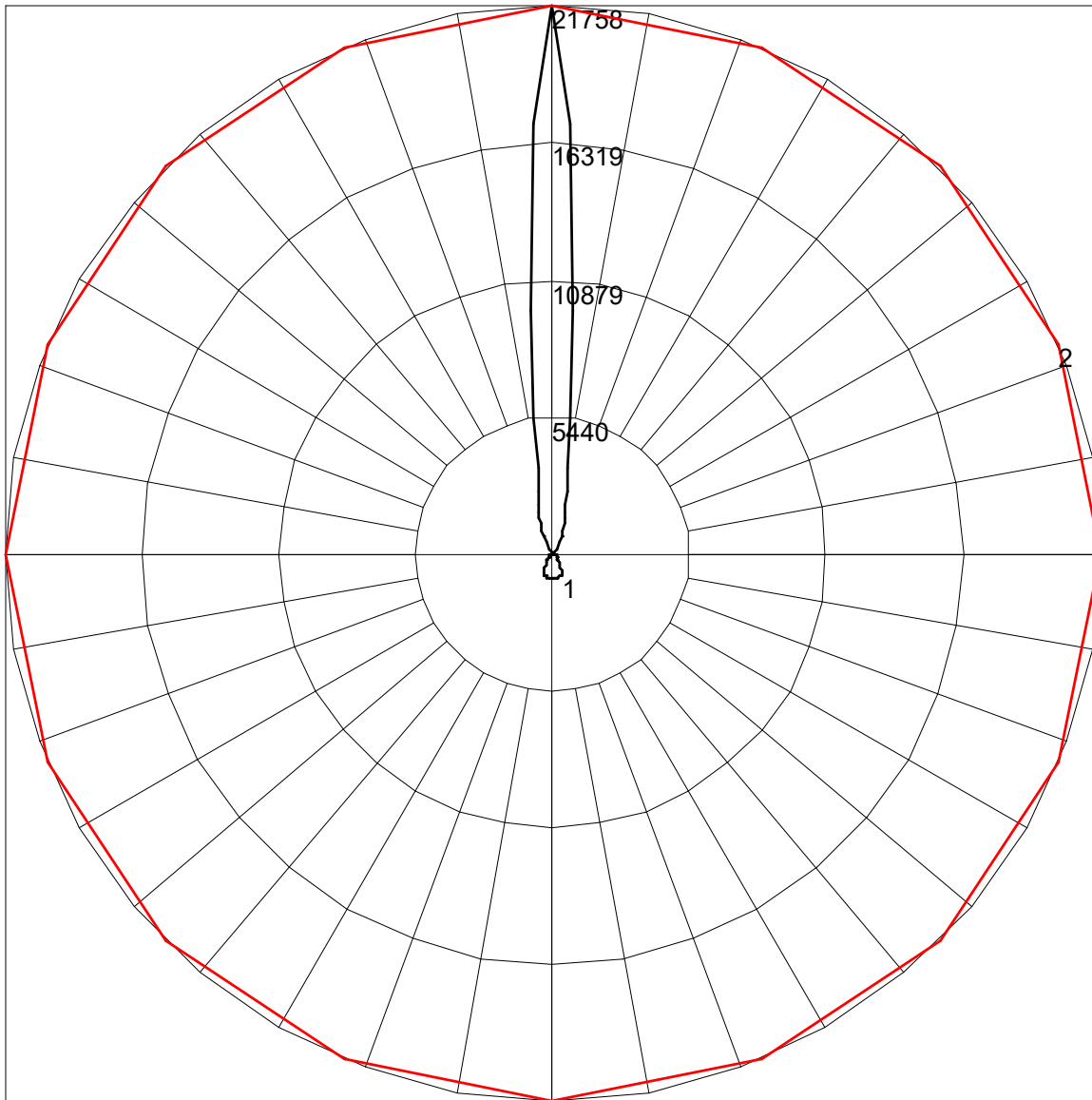
12H	4H	17.6	17.9	18.6	19.0	20.4	17.6	17.9	18.6	19.0	20.4
	6H	18.0	18.3	19.1	19.4	20.9	18.0	18.3	19.1	19.4	20.9
	8H	18.2	18.5	19.3	19.6	21.1	18.2	18.5	19.3	19.6	21.1

Maximum UGR = 21.1

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-LW-WHD-WM_.IES

POLAR GRAPH



Maximum Candela = 21758 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.)