



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 and #12326812.12

[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-RW-WHD-WM

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

[MORE] wide distrib regressed 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	3488
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	37.985
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	17908	17908	17908
55	14934	14934	14934
65	10536	10536	10536
75	6454	6454	6454
85	5090	5090	5090

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-WHD-WM\_IES

## 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	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000
2.5	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000
5.0	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000
7.5	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000
10.0	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000
12.5	977.000	977.000	977.000	977.000	977.000	977.000	977.000	977.000	977.000	977.000
15.0	953.000	953.000	953.000	953.000	953.000	953.000	953.000	953.000	953.000	953.000
17.5	931.300	931.300	931.300	931.300	931.300	931.300	931.300	931.300	931.300	931.300
20.0	911.800	911.800	911.800	911.800	911.800	911.800	911.800	911.800	911.800	911.800
22.5	883.700	883.700	883.700	883.700	883.700	883.700	883.700	883.700	883.700	883.700
25.0	836.400	836.400	836.400	836.400	836.400	836.400	836.400	836.400	836.400	836.400
27.5	762.000	762.000	762.000	762.000	762.000	762.000	762.000	762.000	762.000	762.000
30.0	654.800	654.800	654.800	654.800	654.800	654.800	654.800	654.800	654.800	654.800
32.5	519.200	519.200	519.200	519.200	519.200	519.200	519.200	519.200	519.200	519.200
35.0	394.200	394.200	394.200	394.200	394.200	394.200	394.200	394.200	394.200	394.200
37.5	315.600	315.600	315.600	315.600	315.600	315.600	315.600	315.600	315.600	315.600
40.0	274.900	274.900	274.900	274.900	274.900	274.900	274.900	274.900	274.900	274.900
42.5	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
45.0	231.200	231.200	231.200	231.200	231.200	231.200	231.200	231.200	231.200	231.200
47.5	213.900	213.900	213.900	213.900	213.900	213.900	213.900	213.900	213.900	213.900
50.0	196.100	196.100	196.100	196.100	196.100	196.100	196.100	196.100	196.100	196.100
52.5	176.600	176.600	176.600	176.600	176.600	176.600	176.600	176.600	176.600	176.600
55.0	156.400	156.400	156.400	156.400	156.400	156.400	156.400	156.400	156.400	156.400
57.5	135.800	135.800	135.800	135.800	135.800	135.800	135.800	135.800	135.800	135.800
60.0	116.400	116.400	116.400	116.400	116.400	116.400	116.400	116.400	116.400	116.400
62.5	98.200	98.200	98.200	98.200	98.200	98.200	98.200	98.200	98.200	98.200
65.0	81.300	81.300	81.300	81.300	81.300	81.300	81.300	81.300	81.300	81.300
67.5	65.800	65.800	65.800	65.800	65.800	65.800	65.800	65.800	65.800	65.800
70.0	51.900	51.900	51.900	51.900	51.900	51.900	51.900	51.900	51.900	51.900
72.5	39.800	39.800	39.800	39.800	39.800	39.800	39.800	39.800	39.800	39.800
75.0	30.500	30.500	30.500	30.500	30.500	30.500	30.500	30.500	30.500	30.500
77.5	23.800	23.800	23.800	23.800	23.800	23.800	23.800	23.800	23.800	23.800
80.0	18.100	18.100	18.100	18.100	18.100	18.100	18.100	18.100	18.100	18.100
82.5	12.800	12.800	12.800	12.800	12.800	12.800	12.800	12.800	12.800	12.800
85.0	8.100	8.100	8.100	8.100	8.100	8.100	8.100	8.100	8.100	8.100
87.5	3.700	3.700	3.700	3.700	3.700	3.700	3.700	3.700	3.700	3.700
90.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-WHD-WM\_IES

## 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. 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	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000	1069.000
2.5	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000	1061.000
5.0	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000	1043.000
7.5	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000	1023.000
10.0	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000	1001.000
12.5	977.000	977.000	977.000	977.000	977.000	977.000	977.000
15.0	953.000	953.000	953.000	953.000	953.000	953.000	953.000
17.5	931.300	931.300	931.300	931.300	931.300	931.300	931.300
20.0	911.800	911.800	911.800	911.800	911.800	911.800	911.800
22.5	883.700	883.700	883.700	883.700	883.700	883.700	883.700
25.0	836.400	836.400	836.400	836.400	836.400	836.400	836.400
27.5	762.000	762.000	762.000	762.000	762.000	762.000	762.000
30.0	654.800	654.800	654.800	654.800	654.800	654.800	654.800
32.5	519.200	519.200	519.200	519.200	519.200	519.200	519.200
35.0	394.200	394.200	394.200	394.200	394.200	394.200	394.200
37.5	315.600	315.600	315.600	315.600	315.600	315.600	315.600
40.0	274.900	274.900	274.900	274.900	274.900	274.900	274.900
42.5	250.000	250.000	250.000	250.000	250.000	250.000	250.000
45.0	231.200	231.200	231.200	231.200	231.200	231.200	231.200
47.5	213.900	213.900	213.900	213.900	213.900	213.900	213.900
50.0	196.100	196.100	196.100	196.100	196.100	196.100	196.100
52.5	176.600	176.600	176.600	176.600	176.600	176.600	176.600
55.0	156.400	156.400	156.400	156.400	156.400	156.400	156.400
57.5	135.800	135.800	135.800	135.800	135.800	135.800	135.800
60.0	116.400	116.400	116.400	116.400	116.400	116.400	116.400
62.5	98.200	98.200	98.200	98.200	98.200	98.200	98.200
65.0	81.300	81.300	81.300	81.300	81.300	81.300	81.300
67.5	65.800	65.800	65.800	65.800	65.800	65.800	65.800
70.0	51.900	51.900	51.900	51.900	51.900	51.900	51.900
72.5	39.800	39.800	39.800	39.800	39.800	39.800	39.800
75.0	30.500	30.500	30.500	30.500	30.500	30.500	30.500
77.5	23.800	23.800	23.800	23.800	23.800	23.800	23.800
80.0	18.100	18.100	18.100	18.100	18.100	18.100	18.100

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-WHD-WM\_IES****CANDELA TABULATION - (Cont.)**

82.5	12.800	12.800	12.800	12.800	12.800	12.800	12.800
85.0	8.100	8.100	8.100	8.100	8.100	8.100	8.100
87.5	3.700	3.700	3.700	3.700	3.700	3.700	3.700
90.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-WHD-WM\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	367.51	N.A.	10.50
0-30	741.97	N.A.	21.30
0-40	1003.19	N.A.	28.80
0-60	1322.07	N.A.	37.90
0-80	1437.43	N.A.	41.20
0-90	1446.72	N.A.	41.50
10-90	1348.46	N.A.	38.70
20-40	635.68	N.A.	18.20
20-50	815.05	N.A.	23.40
40-70	400.22	N.A.	11.50
60-80	115.36	N.A.	3.30
70-80	34.02	N.A.	1.00
80-90	9.29	N.A.	0.30
90-110	0.52	N.A.	0.00
90-120	1.86	N.A.	0.10
90-130	5.59	N.A.	0.20
90-150	193.59	N.A.	5.50
90-180	2041.53	N.A.	58.50
110-180	2041.00	N.A.	58.50
0-180	3488.24	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	98.26
10-20	269.25
20-30	374.46
30-40	261.22
40-50	179.37
50-60	139.50
60-70	81.35
70-80	34.02
80-90	9.29
90-100	0.14
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

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-WHD-WM\_IES

## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	97	93	90	87	88	85	82	80	70	68	67	57	56	54	44	44	43	37
2	89	83	77	73	81	76	71	67	63	60	57	51	49	47	40	39	38	33
3	82	74	67	62	75	68	62	58	57	53	49	46	44	41	37	35	34	29
4	76	66	59	54	69	61	55	50	51	47	43	42	39	37	34	32	30	26
5	70	60	52	47	64	55	49	44	47	42	38	39	35	33	31	29	27	24
6	65	54	47	41	60	50	44	39	43	38	34	36	32	29	29	27	25	22
7	60	49	42	37	55	46	39	35	39	34	31	33	29	27	27	24	23	20
8	56	45	38	33	52	42	36	31	36	31	28	30	27	24	25	23	21	18
9	53	41	35	30	48	39	33	28	33	29	25	28	25	22	23	21	19	17
10	50	38	32	27	46	36	30	26	31	26	23	26	23	20	22	20	18	16

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-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	13.9	14.7	15.0	15.7	17.1	13.9	14.7	15.0	15.7	17.1
	3H	14.9	15.5	15.9	16.6	18.0	14.9	15.5	15.9	16.6	18.0
	4H	15.1	15.7	16.2	16.8	18.2	15.1	15.7	16.2	16.8	18.2
	6H	15.3	15.8	16.3	16.9	18.3	15.3	15.8	16.3	16.9	18.3
	8H	15.3	15.8	16.4	16.9	18.3	15.3	15.8	16.4	16.9	18.3
	12H	15.3	15.8	16.4	16.9	18.3	15.3	15.8	16.4	16.9	18.3

### UGR Viewed Endwise

4H	2H	14.2	14.8	15.3	15.9	17.3	14.2	14.8	15.3	15.9	17.3
	3H	15.3	15.8	16.4	16.9	18.3	15.3	15.8	16.4	16.9	18.3
	4H	15.6	16.1	16.7	17.1	18.6	15.6	16.1	16.7	17.1	18.6
	6H	15.8	16.2	16.9	17.3	18.8	15.8	16.2	16.9	17.3	18.8
	8H	15.9	16.3	17.0	17.4	18.8	15.9	16.3	17.0	17.4	18.8
	12H	16.0	16.3	17.1	17.4	18.9	16.0	16.3	17.1	17.4	18.9

8H	4H	15.7	16.0	16.8	17.1	18.6	15.7	16.0	16.8	17.1	18.6
	6H	16.0	16.3	17.1	17.4	18.9	16.0	16.3	17.1	17.4	18.9
	8H	16.1	16.4	17.3	17.5	19.0	16.1	16.4	17.3	17.5	19.0
	12H	16.2	16.5	17.4	17.6	19.1	16.2	16.5	17.4	17.6	19.1

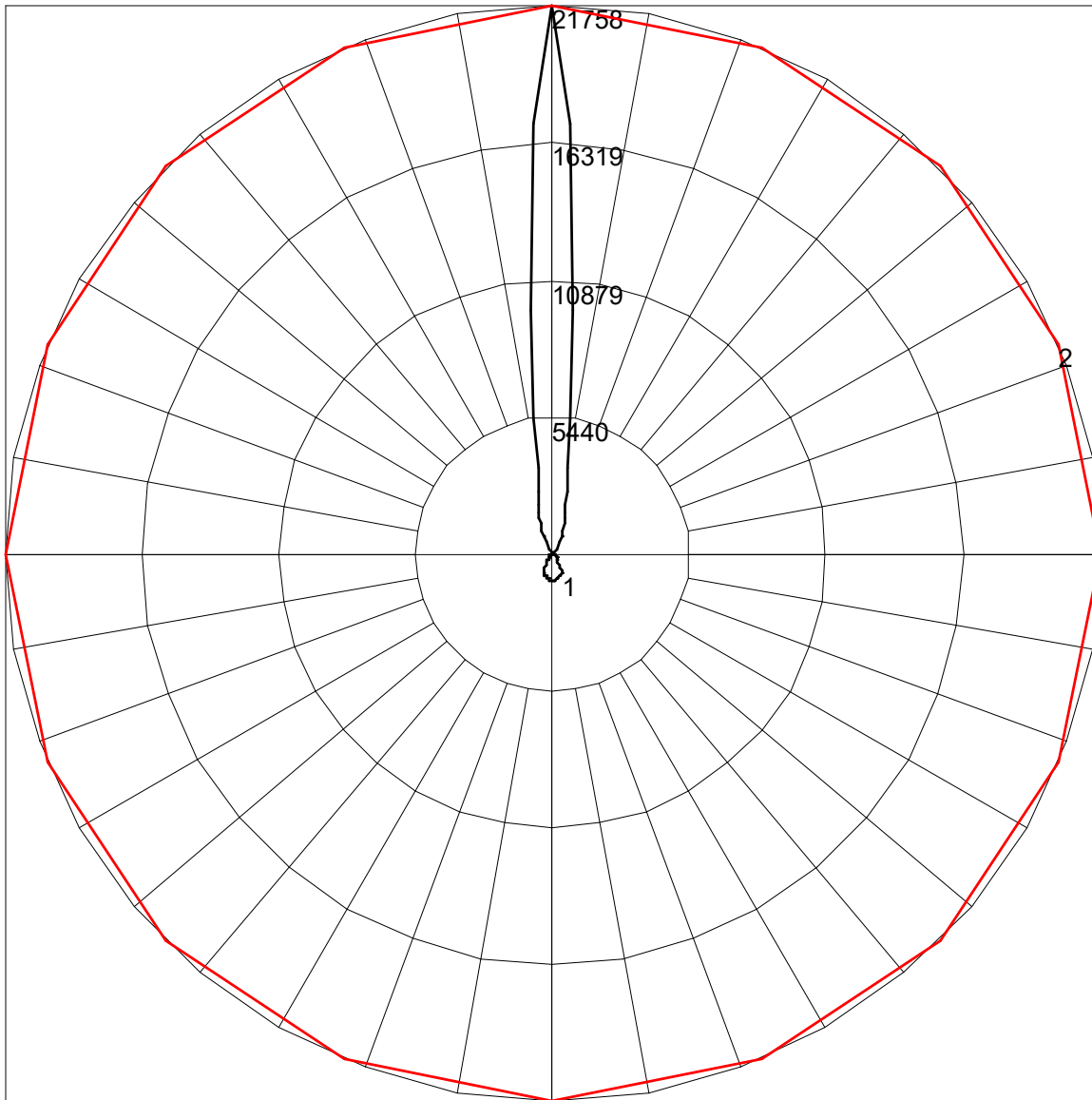
12H	4H	15.6	16.0	16.7	17.0	18.5	15.6	16.0	16.7	17.0	18.5
	6H	16.0	16.2	17.1	17.4	18.9	16.0	16.2	17.1	17.4	18.9
	8H	16.2	16.4	17.3	17.5	19.0	16.2	16.4	17.3	17.5	19.0

Maximum UGR = 19.1

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RW-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.)