



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 AND #12326812.05

[TESTLAB]

[ISSUE DATE] 16-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

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

[LUMINAIRE] White formed aluminum housing, medium distribution reflector

[MORE] trim, clear uplight glass lens enclosure, narrow distrib open reflector 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	3877
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	37.9907
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	1007	1007	1007
55	382	382	382
65	130	130	130
75	0	0	0
85	0	0	0

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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	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000
2.5	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000
5.0	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000
7.5	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000
10.0	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000
12.5	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000
15.0	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000
17.5	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000
20.0	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000
22.5	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000
25.0	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000
27.5	823.000	823.000	823.000	823.000	823.000	823.000	823.000	823.000	823.000	823.000
30.0	755.000	755.000	755.000	755.000	755.000	755.000	755.000	755.000	755.000	755.000
32.5	542.000	542.000	542.000	542.000	542.000	542.000	542.000	542.000	542.000	542.000
35.0	242.000	242.000	242.000	242.000	242.000	242.000	242.000	242.000	242.000	242.000
37.5	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000
40.0	21.000	21.000	21.000	21.000	21.000	21.000	21.000	21.000	21.000	21.000
42.5	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000
45.0	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000
47.5	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
50.0	8.000	8.000	8.000	8.000	8.000	8.000	8.000	8.000	8.000	8.000
52.5	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
55.0	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
57.5	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000
60.0	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
62.5	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
65.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
67.5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
70.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
72.5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
75.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
82.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
87.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90.0	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
92.5	0.182	0.182	0.182	0.182	0.182	0.182	0.182	0.182	0.182	0.182
95.0	0.273	0.273	0.273	0.273	0.273	0.273	0.273	0.273	0.273	0.273
97.5	0.364	0.364	0.364	0.364	0.364	0.364	0.364	0.364	0.364	0.364
100.0	0.547	0.547	0.547	0.547	0.547	0.547	0.547	0.547	0.547	0.547
102.5	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729
105.0	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
107.5	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458
110.0	2.004	2.004	2.004	2.004	2.004	2.004	2.004	2.004	2.004	2.004
112.5	2.642	2.642	2.642	2.642	2.642	2.642	2.642	2.642	2.642	2.642
115.0	3.644	3.644	3.644	3.644	3.644	3.644	3.644	3.644	3.644	3.644
117.5	4.919	4.919	4.919	4.919	4.919	4.919	4.919	4.919	4.919	4.919
120.0	6.650	6.650	6.650	6.650	6.650	6.650	6.650	6.650	6.650	6.650
122.5	9.110	9.110	9.110	9.110	9.110	9.110	9.110	9.110	9.110	9.110
125.0	12.572	12.572	12.572	12.572	12.572	12.572	12.572	12.572	12.572	12.572
127.5	17.673	17.673	17.673	17.673	17.673	17.673	17.673	17.673	17.673	17.673
130.0	24.415	24.415	24.415	24.415	24.415	24.415	24.415	24.415	24.415	24.415
132.5	32.614	32.614	32.614	32.614	32.614	32.614	32.614	32.614	32.614	32.614

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## CANDELA TABULATION - (Cont.)

135.0	42.088	42.088	42.088	42.088	42.088	42.088	42.088	42.088	42.088	42.088
137.5	59.488	59.488	59.488	59.488	59.488	59.488	59.488	59.488	59.488	59.488
140.0	105.494	105.494	105.494	105.494	105.494	105.494	105.494	105.494	105.494	105.494
142.5	157.148	157.148	157.148	157.148	157.148	157.148	157.148	157.148	157.148	157.148
145.0	360.301	360.301	360.301	360.301	360.301	360.301	360.301	360.301	360.301	360.301
147.5	647.903	647.903	647.903	647.903	647.903	647.903	647.903	647.903	647.903	647.903
150.0	913.733	913.733	913.733	913.733	913.733	913.733	913.733	913.733	913.733	913.733
152.5	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247
155.0	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332
157.5	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836
160.0	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832
162.5	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566
165.0	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075
167.5	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244
170.0	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623
172.5	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093
175.0	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493
177.5	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482
180.0	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000

## 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	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000	22000.000
2.5	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000	17330.000
5.0	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000	9830.000
7.5	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000	5531.000
10.0	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000	3526.000
12.5	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000	2528.000
15.0	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000	2032.000
17.5	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000	1752.000
20.0	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000	1558.000
22.5	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000	1319.000
25.0	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000	1021.000
27.5	823.000	823.000	823.000	823.000	823.000	823.000	823.000
30.0	755.000	755.000	755.000	755.000	755.000	755.000	755.000
32.5	542.000	542.000	542.000	542.000	542.000	542.000	542.000
35.0	242.000	242.000	242.000	242.000	242.000	242.000	242.000
37.5	38.000	38.000	38.000	38.000	38.000	38.000	38.000
40.0	21.000	21.000	21.000	21.000	21.000	21.000	21.000
42.5	17.000	17.000	17.000	17.000	17.000	17.000	17.000
45.0	13.000	13.000	13.000	13.000	13.000	13.000	13.000
47.5	10.000	10.000	10.000	10.000	10.000	10.000	10.000
50.0	8.000	8.000	8.000	8.000	8.000	8.000	8.000
52.5	5.000	5.000	5.000	5.000	5.000	5.000	5.000
55.0	4.000	4.000	4.000	4.000	4.000	4.000	4.000
57.5	3.000	3.000	3.000	3.000	3.000	3.000	3.000
60.0	2.000	2.000	2.000	2.000	2.000	2.000	2.000
62.5	2.000	2.000	2.000	2.000	2.000	2.000	2.000
65.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000
67.5	1.000	1.000	1.000	1.000	1.000	1.000	1.000
70.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000
72.5	1.000	1.000	1.000	1.000	1.000	1.000	1.000
75.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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82.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
87.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90.0	0.091	0.091	0.091	0.091	0.091	0.091	0.091
92.5	0.182	0.182	0.182	0.182	0.182	0.182	0.182
95.0	0.273	0.273	0.273	0.273	0.273	0.273	0.273
97.5	0.364	0.364	0.364	0.364	0.364	0.364	0.364
100.0	0.547	0.547	0.547	0.547	0.547	0.547	0.547
102.5	0.729	0.729	0.729	0.729	0.729	0.729	0.729
105.0	1.002	1.002	1.002	1.002	1.002	1.002	1.002
107.5	1.458	1.458	1.458	1.458	1.458	1.458	1.458
110.0	2.004	2.004	2.004	2.004	2.004	2.004	2.004
112.5	2.642	2.642	2.642	2.642	2.642	2.642	2.642
115.0	3.644	3.644	3.644	3.644	3.644	3.644	3.644
117.5	4.919	4.919	4.919	4.919	4.919	4.919	4.919
120.0	6.650	6.650	6.650	6.650	6.650	6.650	6.650
122.5	9.110	9.110	9.110	9.110	9.110	9.110	9.110
125.0	12.572	12.572	12.572	12.572	12.572	12.572	12.572
127.5	17.673	17.673	17.673	17.673	17.673	17.673	17.673
130.0	24.415	24.415	24.415	24.415	24.415	24.415	24.415
132.5	32.614	32.614	32.614	32.614	32.614	32.614	32.614
135.0	42.088	42.088	42.088	42.088	42.088	42.088	42.088
137.5	59.488	59.488	59.488	59.488	59.488	59.488	59.488
140.0	105.494	105.494	105.494	105.494	105.494	105.494	105.494
142.5	157.148	157.148	157.148	157.148	157.148	157.148	157.148
145.0	360.301	360.301	360.301	360.301	360.301	360.301	360.301
147.5	647.903	647.903	647.903	647.903	647.903	647.903	647.903
150.0	913.733	913.733	913.733	913.733	913.733	913.733	913.733
152.5	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247	1072.247
155.0	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332	1286.332
157.5	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836	1526.836
160.0	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832	1741.832
162.5	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566	1918.566
165.0	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075	2118.075
167.5	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244	2372.244
170.0	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623	2726.623
172.5	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093	3254.093
175.0	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493	3618.493
177.5	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482	3700.482
180.0	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000	3655.000

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

Zone	Lumens	%Lamp	%Fixt
0-20	1380.56	N.A.	35.60
0-30	1868.49	N.A.	48.20
0-40	2048.17	N.A.	52.80
0-60	2062.35	N.A.	53.20
0-80	2064.09	N.A.	53.20
0-90	2064.11	N.A.	53.20
10-90	1284.96	N.A.	33.10
20-40	667.61	N.A.	17.20
20-50	678.02	N.A.	17.50
40-70	15.53	N.A.	0.40
60-80	1.75	N.A.	0.00
70-80	0.39	N.A.	0.00
80-90	0.01	N.A.	0.00
90-110	1.48	N.A.	0.00
90-120	5.31	N.A.	0.10
90-130	17.47	N.A.	0.50
90-150	307.57	N.A.	7.90
90-180	1812.76	N.A.	46.80
110-180	1811.28	N.A.	46.70
0-180	3876.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	779.15
10-20	601.42
20-30	487.92
30-40	179.68
40-50	10.41
50-60	3.77
60-70	1.36
70-80	0.39
80-90	0.01
90-100	0.31
100-110	1.18
110-120	3.83
120-130	12.16
130-140	37.81
140-150	252.29
150-160	591.59
160-170	598.73
170-180	314.86

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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	102	99	96	93	94	92	90	88	79	78	76	68	67	66	57	57	56	51
2	96	91	86	83	89	85	81	78	74	72	70	64	63	61	55	54	53	49
3	91	84	79	75	85	79	75	71	70	67	64	61	59	57	53	52	51	47
4	86	78	73	68	80	74	69	65	66	62	60	58	56	54	51	50	49	46
5	81	73	67	63	76	69	64	61	62	59	56	56	53	51	50	48	47	44
6	77	69	63	59	73	65	60	57	59	55	53	53	51	49	48	46	45	43
7	74	65	59	55	70	62	57	53	56	53	50	51	49	47	47	45	43	41
8	70	61	56	52	67	59	54	50	54	50	48	49	47	45	45	43	42	40
9	67	58	53	49	64	56	51	48	52	48	45	48	45	43	44	42	40	39
10	65	56	50	47	61	54	49	46	50	46	44	46	43	41	42	41	39	38

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-ON-CSD-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	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	3H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	4H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	6H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	8H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	12H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8

### UGR Viewed Endwise

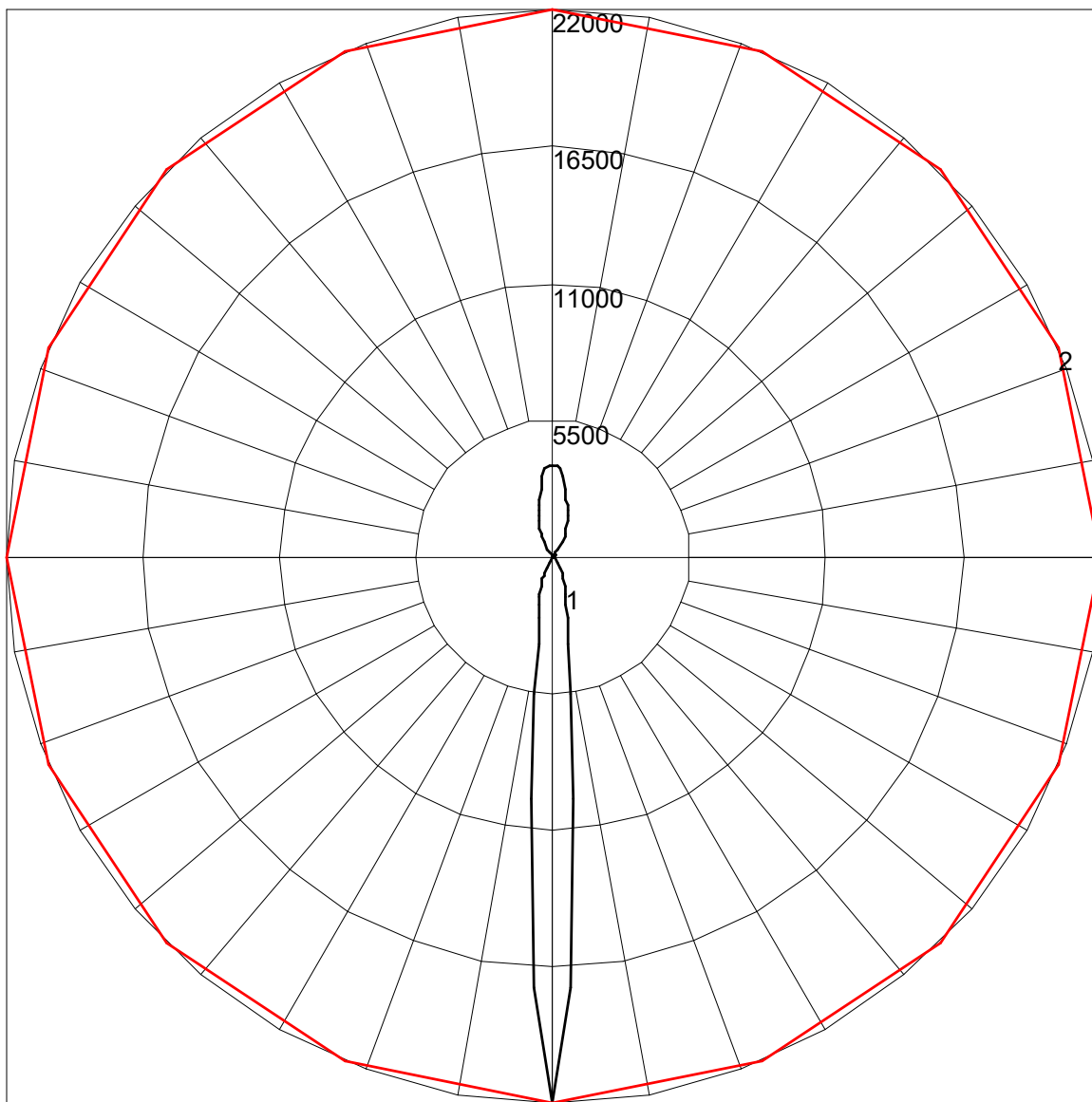
4H	2H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	3H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	4H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	6H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	8H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	12H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
8H	4H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	6H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	8H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	12H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
12H	4H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	6H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	8H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8

Maximum UGR = 4.8

# IES INDOOR REPORT

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

## POLAR GRAPH



Maximum Candela = 22000 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.)