



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.03 and #12326812.05

[TESTLAB]

[ISSUE DATE] 17-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

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

[LUMINAIRE] White formed aluminum housing, wide distribution reflector

[MORE] trims, clear uplight glass lens enclosure, no downlight enclosure

[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	3880
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 w/ Sides
Luminous Length (0-180)	0.65 ft (Diameter)
Luminous Width (90-270)	0.65 ft (Diameter)
Luminous Height	2.17 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	114	114	114
55	32	32	32
65	8	8	8
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	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578
92.5	3.749	3.749	3.749	3.749	3.749	3.749	3.749	3.749	3.749	3.749
95.0	4.061	4.061	4.061	4.061	4.061	4.061	4.061	4.061	4.061	4.061
97.5	4.459	4.459	4.459	4.459	4.459	4.459	4.459	4.459	4.459	4.459
100.0	4.913	4.913	4.913	4.913	4.913	4.913	4.913	4.913	4.913	4.913
102.5	5.453	5.453	5.453	5.453	5.453	5.453	5.453	5.453	5.453	5.453
105.0	6.078	6.078	6.078	6.078	6.078	6.078	6.078	6.078	6.078	6.078
107.5	6.816	6.816	6.816	6.816	6.816	6.816	6.816	6.816	6.816	6.816
110.0	7.668	7.668	7.668	7.668	7.668	7.668	7.668	7.668	7.668	7.668
112.5	8.719	8.719	8.719	8.719	8.719	8.719	8.719	8.719	8.719	8.719
115.0	10.054	10.054	10.054	10.054	10.054	10.054	10.054	10.054	10.054	10.054
117.5	11.729	11.729	11.729	11.729	11.729	11.729	11.729	11.729	11.729	11.729
120.0	13.916	13.916	13.916	13.916	13.916	13.916	13.916	13.916	13.916	13.916
122.5	16.898	16.898	16.898	16.898	16.898	16.898	16.898	16.898	16.898	16.898
125.0	21.073	21.073	21.073	21.073	21.073	21.073	21.073	21.073	21.073	21.073
127.5	26.866	26.866	26.866	26.866	26.866	26.866	26.866	26.866	26.866	26.866
130.0	33.484	33.484	33.484	33.484	33.484	33.484	33.484	33.484	33.484	33.484
132.5	41.350	41.350	41.350	41.350	41.350	41.350	41.350	41.350	41.350	41.350

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**CANDELA TABULATION - (Cont.)**

135.0	53.335	53.335	53.335	53.335	53.335	53.335	53.335	53.335	53.335	53.335
137.5	91.533	91.533	91.533	91.533	91.533	91.533	91.533	91.533	91.533	91.533
140.0	212.460	212.460	212.460	212.460	212.460	212.460	212.460	212.460	212.460	212.460
142.5	443.608	443.608	443.608	443.608	443.608	443.608	443.608	443.608	443.608	443.608
145.0	755.156	755.156	755.156	755.156	755.156	755.156	755.156	755.156	755.156	755.156
147.5	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692
150.0	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504
152.5	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348
155.0	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004
157.5	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684
160.0	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912
162.5	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904
165.0	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700
167.5	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028
170.0	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356
172.5	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236
175.0	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384
177.5	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632
180.0	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516

**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	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	3.578	3.578	3.578	3.578	3.578	3.578	3.578
92.5	3.749	3.749	3.749	3.749	3.749	3.749	3.749
95.0	4.061	4.061	4.061	4.061	4.061	4.061	4.061
97.5	4.459	4.459	4.459	4.459	4.459	4.459	4.459
100.0	4.913	4.913	4.913	4.913	4.913	4.913	4.913
102.5	5.453	5.453	5.453	5.453	5.453	5.453	5.453
105.0	6.078	6.078	6.078	6.078	6.078	6.078	6.078
107.5	6.816	6.816	6.816	6.816	6.816	6.816	6.816
110.0	7.668	7.668	7.668	7.668	7.668	7.668	7.668
112.5	8.719	8.719	8.719	8.719	8.719	8.719	8.719
115.0	10.054	10.054	10.054	10.054	10.054	10.054	10.054
117.5	11.729	11.729	11.729	11.729	11.729	11.729	11.729
120.0	13.916	13.916	13.916	13.916	13.916	13.916	13.916
122.5	16.898	16.898	16.898	16.898	16.898	16.898	16.898
125.0	21.073	21.073	21.073	21.073	21.073	21.073	21.073
127.5	26.866	26.866	26.866	26.866	26.866	26.866	26.866
130.0	33.484	33.484	33.484	33.484	33.484	33.484	33.484
132.5	41.350	41.350	41.350	41.350	41.350	41.350	41.350
135.0	53.335	53.335	53.335	53.335	53.335	53.335	53.335
137.5	91.533	91.533	91.533	91.533	91.533	91.533	91.533
140.0	212.460	212.460	212.460	212.460	212.460	212.460	212.460
142.5	443.608	443.608	443.608	443.608	443.608	443.608	443.608
145.0	755.156	755.156	755.156	755.156	755.156	755.156	755.156
147.5	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692	1068.692
150.0	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504	1336.504
152.5	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348	1504.348
155.0	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004	1585.004
157.5	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684	1590.684
160.0	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912	1552.912
162.5	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904	1506.904
165.0	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700	1469.700
167.5	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028	1439.028
170.0	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356	1408.356
172.5	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236	1357.236
175.0	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384	1285.384
177.5	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632	1220.632
180.0	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516	1192.516

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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	2064.58	N.A.	53.20
10-90	1285.44	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	0.49	N.A.	0.00
90-110	11.01	N.A.	0.30
90-120	21.22	N.A.	0.50
90-130	40.90	N.A.	1.10
90-150	562.55	N.A.	14.50
90-180	1815.27	N.A.	46.80
110-180	1804.26	N.A.	46.50
0-180	3879.85	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	0.49
90-100	4.50
100-110	6.51
110-120	10.21
120-130	19.69
130-140	58.29
140-150	463.36
150-160	706.05
160-170	419.88
170-180	126.78

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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	46	45	43	41
8	70	61	56	52	67	59	54	50	54	50	47	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	43	46	43	41	42	40	39	38

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OW-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

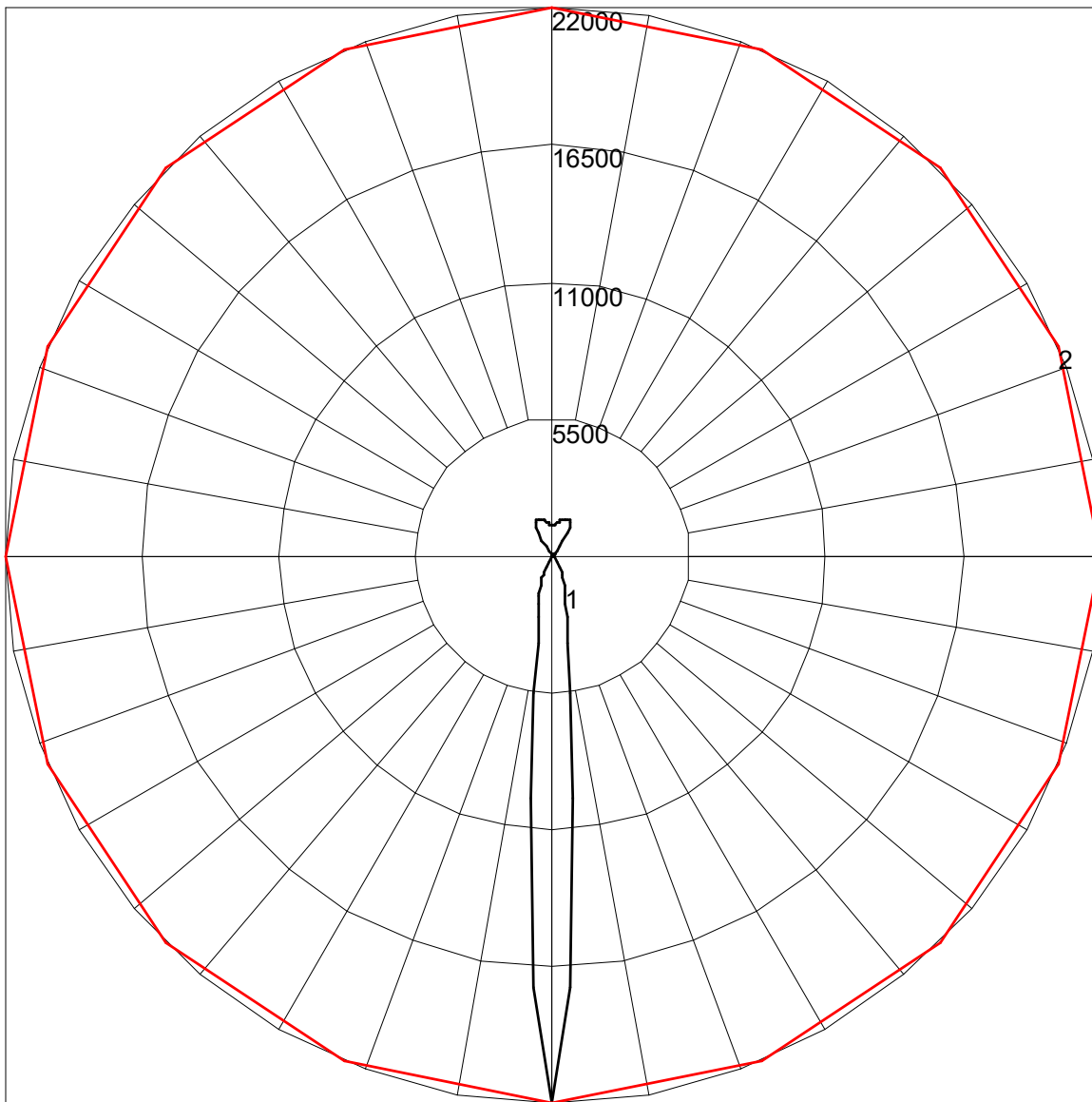
4H	2H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	3H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	4H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	6H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	8H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	12H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
8H	4H	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	6H	4.8	4.8	4.8	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-OW-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.)