



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.05 and #12326812.15

[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-RN-WHD-WM

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

[MORE] narrow 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	3866
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	37.987
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	5445	5445	5445
55	3562	3562	3562
65	2423	2423	2423
75	1566	1566	1566
85	1257	1257	1257

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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	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000
2.5	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000
5.0	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000
7.5	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000
10.0	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000
12.5	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000
15.0	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000
17.5	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000
20.0	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000
22.5	946.600	946.600	946.600	946.600	946.600	946.600	946.600	946.600	946.600	946.600
25.0	653.800	653.800	653.800	653.800	653.800	653.800	653.800	653.800	653.800	653.800
27.5	452.700	452.700	452.700	452.700	452.700	452.700	452.700	452.700	452.700	452.700
30.0	319.300	319.300	319.300	319.300	319.300	319.300	319.300	319.300	319.300	319.300
32.5	231.300	231.300	231.300	231.300	231.300	231.300	231.300	231.300	231.300	231.300
35.0	172.200	172.200	172.200	172.200	172.200	172.200	172.200	172.200	172.200	172.200
37.5	131.800	131.800	131.800	131.800	131.800	131.800	131.800	131.800	131.800	131.800
40.0	104.100	104.100	104.100	104.100	104.100	104.100	104.100	104.100	104.100	104.100
42.5	84.600	84.600	84.600	84.600	84.600	84.600	84.600	84.600	84.600	84.600
45.0	70.300	70.300	70.300	70.300	70.300	70.300	70.300	70.300	70.300	70.300
47.5	59.200	59.200	59.200	59.200	59.200	59.200	59.200	59.200	59.200	59.200
50.0	50.400	50.400	50.400	50.400	50.400	50.400	50.400	50.400	50.400	50.400
52.5	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200
55.0	37.300	37.300	37.300	37.300	37.300	37.300	37.300	37.300	37.300	37.300
57.5	32.100	32.100	32.100	32.100	32.100	32.100	32.100	32.100	32.100	32.100
60.0	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400
62.5	22.900	22.900	22.900	22.900	22.900	22.900	22.900	22.900	22.900	22.900
65.0	18.700	18.700	18.700	18.700	18.700	18.700	18.700	18.700	18.700	18.700
67.5	15.100	15.100	15.100	15.100	15.100	15.100	15.100	15.100	15.100	15.100
70.0	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000
72.5	9.400	9.400	9.400	9.400	9.400	9.400	9.400	9.400	9.400	9.400
75.0	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400
77.5	5.800	5.800	5.800	5.800	5.800	5.800	5.800	5.800	5.800	5.800
80.0	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500
82.5	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200
85.0	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
87.5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
90.0	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300
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	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000	6729.000
2.5	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000	6565.000
5.0	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000	6100.000
7.5	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000	5392.000
10.0	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000	4509.000
12.5	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000	3560.000
15.0	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000	2662.000
17.5	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000	1920.000
20.0	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000	1358.000
22.5	946.600	946.600	946.600	946.600	946.600	946.600	946.600
25.0	653.800	653.800	653.800	653.800	653.800	653.800	653.800
27.5	452.700	452.700	452.700	452.700	452.700	452.700	452.700
30.0	319.300	319.300	319.300	319.300	319.300	319.300	319.300
32.5	231.300	231.300	231.300	231.300	231.300	231.300	231.300
35.0	172.200	172.200	172.200	172.200	172.200	172.200	172.200
37.5	131.800	131.800	131.800	131.800	131.800	131.800	131.800
40.0	104.100	104.100	104.100	104.100	104.100	104.100	104.100
42.5	84.600	84.600	84.600	84.600	84.600	84.600	84.600
45.0	70.300	70.300	70.300	70.300	70.300	70.300	70.300
47.5	59.200	59.200	59.200	59.200	59.200	59.200	59.200
50.0	50.400	50.400	50.400	50.400	50.400	50.400	50.400
52.5	43.200	43.200	43.200	43.200	43.200	43.200	43.200
55.0	37.300	37.300	37.300	37.300	37.300	37.300	37.300
57.5	32.100	32.100	32.100	32.100	32.100	32.100	32.100
60.0	27.400	27.400	27.400	27.400	27.400	27.400	27.400
62.5	22.900	22.900	22.900	22.900	22.900	22.900	22.900
65.0	18.700	18.700	18.700	18.700	18.700	18.700	18.700
67.5	15.100	15.100	15.100	15.100	15.100	15.100	15.100
70.0	12.000	12.000	12.000	12.000	12.000	12.000	12.000
72.5	9.400	9.400	9.400	9.400	9.400	9.400	9.400
75.0	7.400	7.400	7.400	7.400	7.400	7.400	7.400
77.5	5.800	5.800	5.800	5.800	5.800	5.800	5.800
80.0	4.500	4.500	4.500	4.500	4.500	4.500	4.500

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82.5	3.200	3.200	3.200	3.200	3.200	3.200	3.200
85.0	2.000	2.000	2.000	2.000	2.000	2.000	2.000
87.5	1.000	1.000	1.000	1.000	1.000	1.000	1.000
90.0	0.300	0.300	0.300	0.300	0.300	0.300	0.300
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	1269.86	N.A.	32.80
0-30	1590.67	N.A.	41.10
0-40	1705.43	N.A.	44.10
0-60	1795.07	N.A.	46.40
0-80	1822.06	N.A.	47.10
0-90	1824.4	N.A.	47.20
10-90	1293.18	N.A.	33.50
20-40	435.57	N.A.	11.30
20-50	491.42	N.A.	12.70
40-70	108.50	N.A.	2.80
60-80	26.99	N.A.	0.70
70-80	8.13	N.A.	0.20
80-90	2.34	N.A.	0.10
90-110	0.43	N.A.	0.00
90-120	1.77	N.A.	0.00
90-130	5.50	N.A.	0.10
90-150	193.50	N.A.	5.00
90-180	2041.43	N.A.	52.80
110-180	2041.00	N.A.	52.80
0-180	3865.83	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	531.22
10-20	738.64
20-30	320.81
30-40	114.76
40-50	55.85
50-60	33.79
60-70	18.86
70-80	8.13
80-90	2.34
90-100	0.04
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	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	100	96	94	91	92	89	87	85	75	74	72	63	62	61	51	51	50	45
2	93	88	83	80	86	82	78	75	70	67	65	59	57	56	49	48	47	43
3	88	81	75	71	81	75	71	67	65	62	59	56	54	52	47	46	45	41
4	83	74	69	64	77	70	65	61	61	57	55	53	50	48	45	44	42	39
5	78	69	63	59	72	65	60	56	57	54	51	50	48	45	43	42	40	38
6	74	65	58	54	69	61	56	52	54	50	47	48	45	43	42	40	39	36
7	70	60	54	50	65	57	52	48	51	47	44	46	43	41	40	38	37	35
8	66	57	51	47	62	54	49	45	49	45	42	44	41	39	39	37	36	34
9	63	54	48	44	59	51	46	43	46	43	40	42	39	37	38	36	34	32
10	60	51	45	42	57	49	44	40	44	41	38	40	38	36	36	34	33	31

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-CSU-RN-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	4.8	4.8	4.8	5.4	6.8	4.8	4.8	4.8	5.4	6.8
	3H	4.8	5.2	5.7	6.2	7.6	4.8	5.2	5.7	6.2	7.6
	4H	4.9	5.4	5.9	6.4	7.8	4.9	5.4	5.9	6.4	7.8
	6H	5.0	5.5	6.1	6.6	7.9	5.0	5.5	6.1	6.6	7.9
	8H	5.1	5.6	6.1	6.6	8.0	5.1	5.6	6.1	6.6	8.0
	12H	5.1	5.5	6.2	6.6	8.0	5.1	5.5	6.2	6.6	8.0

UGR Viewed Endwise

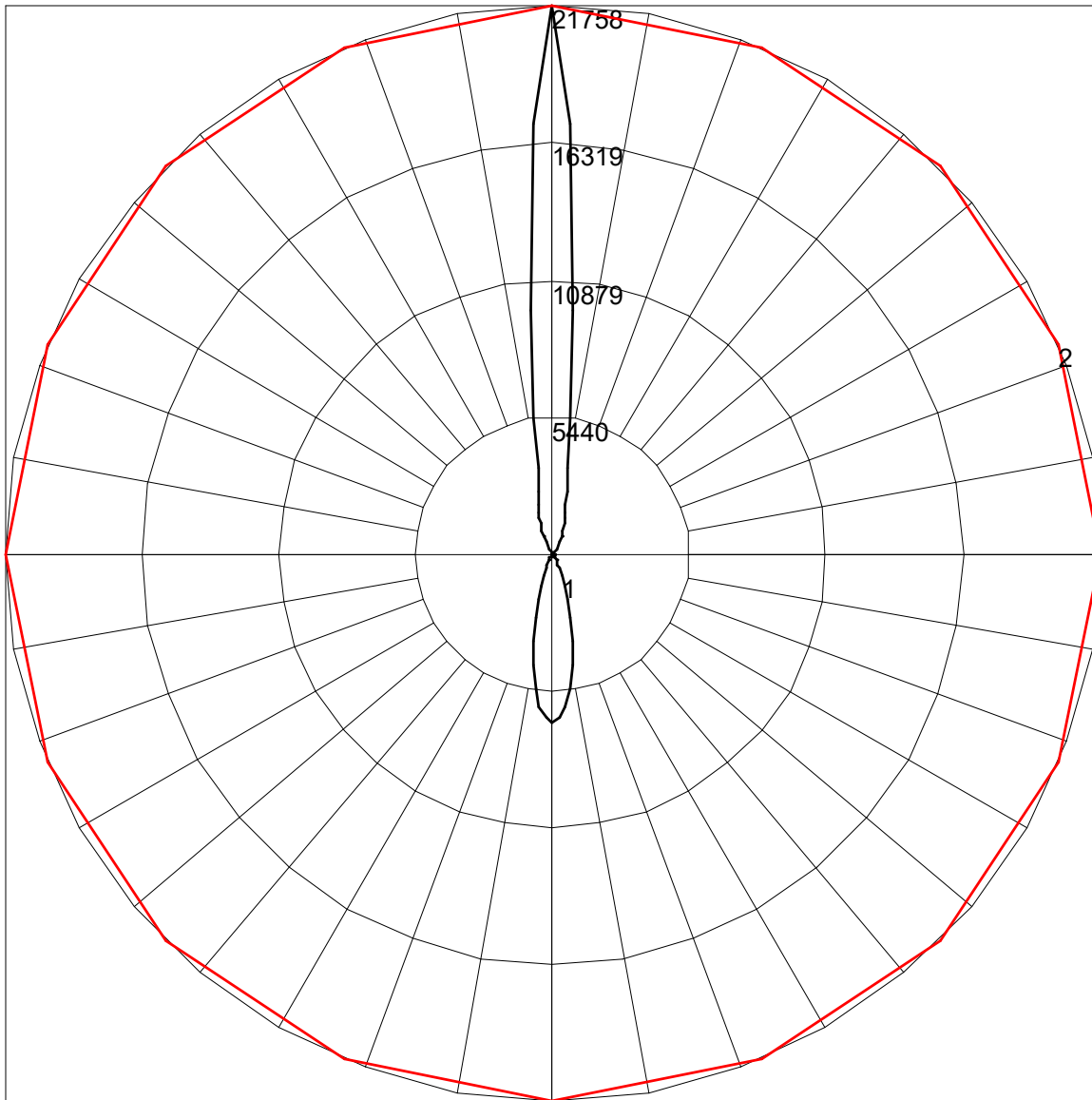
4H	2H	4.8	4.8	5.1	5.6	6.9	4.8	4.8	5.1	5.6	6.9
	3H	5.0	5.5	6.1	6.5	7.9	5.0	5.5	6.1	6.5	7.9
	4H	5.4	5.8	6.4	6.8	8.2	5.4	5.8	6.4	6.8	8.2
	6H	5.6	6.0	6.7	7.0	8.4	5.6	6.0	6.7	7.0	8.4
	8H	5.7	6.0	6.8	7.1	8.5	5.7	6.0	6.8	7.1	8.5
	12H	5.7	6.0	6.8	7.1	8.5	5.7	6.0	6.8	7.1	8.5
8H	4H	5.4	5.7	6.5	6.8	8.2	5.4	5.7	6.5	6.8	8.2
	6H	5.8	6.0	6.9	7.1	8.5	5.8	6.0	6.9	7.1	8.5
	8H	5.9	6.2	7.0	7.2	8.7	5.9	6.2	7.0	7.2	8.7
	12H	6.0	6.2	7.1	7.3	8.8	6.0	6.2	7.1	7.3	8.8
12H	4H	5.4	5.7	6.4	6.7	8.1	5.4	5.7	6.4	6.7	8.1
	6H	5.8	6.0	6.9	7.1	8.5	5.8	6.0	6.9	7.1	8.5
	8H	6.0	6.1	7.1	7.2	8.7	6.0	6.1	7.1	7.2	8.7

Maximum UGR = 8.8

IES INDOOR REPORT

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