



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 and #12326812.10

[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-LN-WHD-WM

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

[MORE] narrow 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	3661
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	96
Total Luminaire Watts	37.9871
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	5794	5794	5794
55	4240	4240	4240
65	3447	3447	3447
75	2814	2814	2814
85	1822	1822	1822

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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	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000
2.5	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000
5.0	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000
7.5	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000
10.0	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000
12.5	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000
15.0	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000
17.5	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000
20.0	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000
22.5	928.700	928.700	928.700	928.700	928.700	928.700	928.700	928.700	928.700	928.700
25.0	634.400	634.400	634.400	634.400	634.400	634.400	634.400	634.400	634.400	634.400
27.5	434.600	434.600	434.600	434.600	434.600	434.600	434.600	434.600	434.600	434.600
30.0	304.200	304.200	304.200	304.200	304.200	304.200	304.200	304.200	304.200	304.200
32.5	219.800	219.800	219.800	219.800	219.800	219.800	219.800	219.800	219.800	219.800
35.0	164.600	164.600	164.600	164.600	164.600	164.600	164.600	164.600	164.600	164.600
37.5	128.300	128.300	128.300	128.300	128.300	128.300	128.300	128.300	128.300	128.300
40.0	104.000	104.000	104.000	104.000	104.000	104.000	104.000	104.000	104.000	104.000
42.5	87.200	87.200	87.200	87.200	87.200	87.200	87.200	87.200	87.200	87.200
45.0	74.800	74.800	74.800	74.800	74.800	74.800	74.800	74.800	74.800	74.800
47.5	65.100	65.100	65.100	65.100	65.100	65.100	65.100	65.100	65.100	65.100
50.0	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000	57.000
52.5	50.200	50.200	50.200	50.200	50.200	50.200	50.200	50.200	50.200	50.200
55.0	44.400	44.400	44.400	44.400	44.400	44.400	44.400	44.400	44.400	44.400
57.5	39.300	39.300	39.300	39.300	39.300	39.300	39.300	39.300	39.300	39.300
60.0	34.700	34.700	34.700	34.700	34.700	34.700	34.700	34.700	34.700	34.700
62.5	30.500	30.500	30.500	30.500	30.500	30.500	30.500	30.500	30.500	30.500
65.0	26.600	26.600	26.600	26.600	26.600	26.600	26.600	26.600	26.600	26.600
67.5	22.900	22.900	22.900	22.900	22.900	22.900	22.900	22.900	22.900	22.900
70.0	19.400	19.400	19.400	19.400	19.400	19.400	19.400	19.400	19.400	19.400
72.5	16.200	16.200	16.200	16.200	16.200	16.200	16.200	16.200	16.200	16.200
75.0	13.300	13.300	13.300	13.300	13.300	13.300	13.300	13.300	13.300	13.300
77.5	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400
80.0	7.800	7.800	7.800	7.800	7.800	7.800	7.800	7.800	7.800	7.800
82.5	5.300	5.300	5.300	5.300	5.300	5.300	5.300	5.300	5.300	5.300
85.0	2.900	2.900	2.900	2.900	2.900	2.900	2.900	2.900	2.900	2.900
87.5	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
90.0	0.291	0.291	0.291	0.291	0.291	0.291	0.291	0.291	0.291	0.291
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	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000	6867.000
2.5	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000	6697.000
5.0	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000	6215.000
7.5	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000	5482.000
10.0	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000	4571.000
12.5	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000	3593.000
15.0	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000	2669.000
17.5	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000	1911.000
20.0	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000	1344.000
22.5	928.700	928.700	928.700	928.700	928.700	928.700	928.700
25.0	634.400	634.400	634.400	634.400	634.400	634.400	634.400
27.5	434.600	434.600	434.600	434.600	434.600	434.600	434.600
30.0	304.200	304.200	304.200	304.200	304.200	304.200	304.200
32.5	219.800	219.800	219.800	219.800	219.800	219.800	219.800
35.0	164.600	164.600	164.600	164.600	164.600	164.600	164.600
37.5	128.300	128.300	128.300	128.300	128.300	128.300	128.300
40.0	104.000	104.000	104.000	104.000	104.000	104.000	104.000
42.5	87.200	87.200	87.200	87.200	87.200	87.200	87.200
45.0	74.800	74.800	74.800	74.800	74.800	74.800	74.800
47.5	65.100	65.100	65.100	65.100	65.100	65.100	65.100
50.0	57.000	57.000	57.000	57.000	57.000	57.000	57.000
52.5	50.200	50.200	50.200	50.200	50.200	50.200	50.200
55.0	44.400	44.400	44.400	44.400	44.400	44.400	44.400
57.5	39.300	39.300	39.300	39.300	39.300	39.300	39.300
60.0	34.700	34.700	34.700	34.700	34.700	34.700	34.700
62.5	30.500	30.500	30.500	30.500	30.500	30.500	30.500
65.0	26.600	26.600	26.600	26.600	26.600	26.600	26.600
67.5	22.900	22.900	22.900	22.900	22.900	22.900	22.900
70.0	19.400	19.400	19.400	19.400	19.400	19.400	19.400
72.5	16.200	16.200	16.200	16.200	16.200	16.200	16.200
75.0	13.300	13.300	13.300	13.300	13.300	13.300	13.300
77.5	10.400	10.400	10.400	10.400	10.400	10.400	10.400
80.0	7.800	7.800	7.800	7.800	7.800	7.800	7.800

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82.5	5.300	5.300	5.300	5.300	5.300	5.300	5.300
85.0	2.900	2.900	2.900	2.900	2.900	2.900	2.900
87.5	1.100	1.100	1.100	1.100	1.100	1.100	1.100
90.0	0.291	0.291	0.291	0.291	0.291	0.291	0.291
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

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Zone	Lumens	%Lamp	%Fixt
0-20	1281.86	N.A.	35.00
0-30	1594.57	N.A.	43.60
0-40	1704.77	N.A.	46.60
0-60	1803.97	N.A.	49.30
0-80	1844.54	N.A.	50.40
0-90	1848.17	N.A.	50.50
10-90	1307.7	N.A.	35.70
20-40	422.91	N.A.	11.60
20-50	481.98	N.A.	13.20
40-70	125.66	N.A.	3.40
60-80	40.57	N.A.	1.10
70-80	14.10	N.A.	0.40
80-90	3.63	N.A.	0.10
90-110	1.51	N.A.	0.00
90-120	5.34	N.A.	0.10
90-130	17.50	N.A.	0.50
90-150	307.60	N.A.	8.40
90-180	1812.79	N.A.	49.50
110-180	1811.28	N.A.	49.50
0-180	3660.96	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	540.47
10-20	741.40
20-30	312.71
30-40	110.20
40-50	59.07
50-60	40.13
60-70	26.47
70-80	14.10
80-90	3.63
90-100	0.34
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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	50
1	101	97	94	92	93	90	88	86	77	76	74	65	64	63	54	54	53	48
2	94	89	84	81	87	83	79	76	72	69	67	61	60	58	52	51	50	46
3	89	82	76	72	82	77	72	68	67	64	61	58	56	54	50	48	47	43
4	84	76	70	65	78	71	66	62	63	59	56	55	52	50	48	46	45	42
5	79	70	64	60	74	66	61	57	59	55	52	52	50	47	46	44	43	40
6	75	66	60	55	70	62	57	53	56	52	49	50	47	45	44	42	41	38
7	71	62	56	51	67	59	53	50	53	49	46	48	45	43	43	41	39	37
8	68	58	52	48	64	56	50	47	50	46	44	46	43	41	41	39	38	36
9	65	55	49	46	61	53	48	44	48	44	42	44	41	39	40	38	36	34
10	62	52	47	43	58	50	45	42	46	42	40	42	39	37	38	36	35	33

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LN-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	5.6	6.2	6.6	7.2	8.5	5.6	6.2	6.6	7.2	8.5
	3H	7.0	7.5	8.0	8.5	9.8	7.0	7.5	8.0	8.5	9.8
	4H	7.4	8.0	8.4	9.0	10.3	7.4	8.0	8.4	9.0	10.3
	6H	7.8	8.3	8.8	9.3	10.6	7.8	8.3	8.8	9.3	10.6
	8H	7.9	8.4	8.9	9.4	10.7	7.9	8.4	8.9	9.4	10.7
	12H	7.9	8.4	8.9	9.4	10.7	7.9	8.4	8.9	9.4	10.7

UGR Viewed Endwise

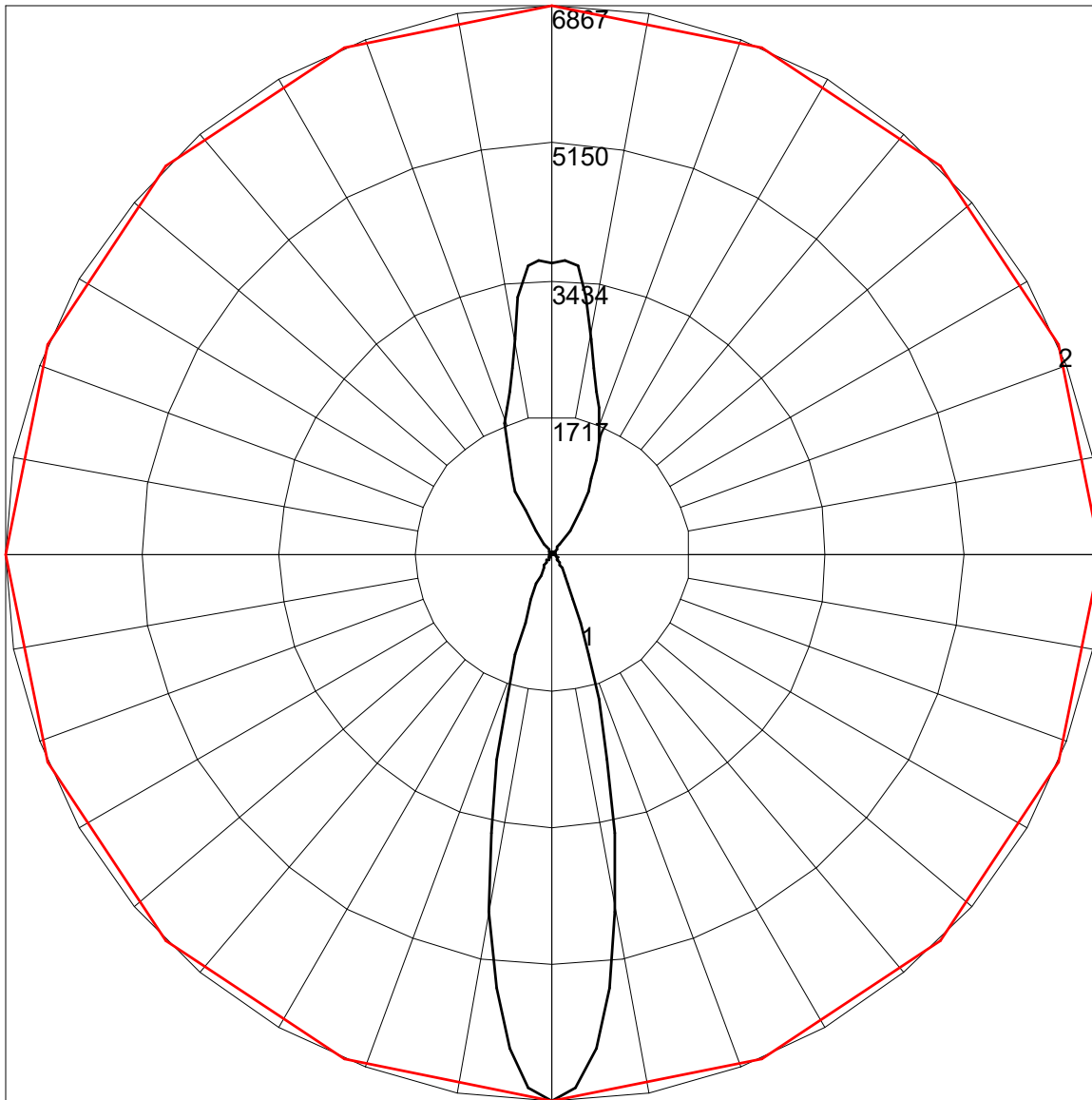
4H	2H	6.0	6.5	7.0	7.5	8.8	6.0	6.5	7.0	7.5	8.8
	3H	7.5	8.0	8.6	9.0	10.3	7.5	8.0	8.6	9.0	10.3
	4H	8.2	8.6	9.2	9.6	10.9	8.2	8.6	9.2	9.6	10.9
	6H	8.6	9.0	9.7	10.0	11.4	8.6	9.0	9.7	10.0	11.4
	8H	8.8	9.1	9.8	10.1	11.5	8.8	9.1	9.8	10.1	11.5
	12H	8.8	9.1	9.9	10.1	11.5	8.8	9.1	9.9	10.1	11.5
8H	4H	8.3	8.7	9.4	9.7	11.0	8.3	8.7	9.4	9.7	11.0
	6H	8.9	9.2	10.0	10.3	11.6	8.9	9.2	10.0	10.3	11.6
	8H	9.1	9.4	10.2	10.4	11.8	9.1	9.4	10.2	10.4	11.8
	12H	9.2	9.4	10.3	10.5	11.9	9.2	9.4	10.3	10.5	11.9
12H	4H	8.3	8.6	9.4	9.7	11.0	8.3	8.6	9.4	9.7	11.0
	6H	8.9	9.2	10.0	10.2	11.6	8.9	9.2	10.0	10.2	11.6
	8H	9.2	9.4	10.2	10.4	11.8	9.2	9.4	10.2	10.4	11.8

Maximum UGR = 11.9

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 6867 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.)