



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-OM-CSD-WM_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13255206.01 and #13131414.06

[TESTLAB]

[ISSUE DATE] 15-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 4CRDI-L12-835U-L12-835D-xxx-DIM1-UNV-OS-CSU-OM-CSD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, narrow spot distrib anodized aluminum reflector trim w/clear cover glass up,

[MORE] medium distrib anodized alum open reflector trim down

[LAMP] Two white LEDs (one up/one down)

[_SEARCH_SOURCE TYPE] LED

[_SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[_SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2136
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	34.5
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)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 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	8439	8439	8439
55	2538	2538	2538
65	842	842	842
75	375	375	375
85	185	185	185

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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	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955
2.5	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845
5.0	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943
7.5	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814
10.0	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881
12.5	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447
15.0	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590
17.5	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508
20.0	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448
22.5	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860
25.0	855.925	855.925	855.925	855.925	855.925	855.925	855.925	855.925	855.925	855.925
27.5	541.149	541.149	541.149	541.149	541.149	541.149	541.149	541.149	541.149	541.149
30.0	284.934	284.934	284.934	284.934	284.934	284.934	284.934	284.934	284.934	284.934
32.5	129.027	129.027	129.027	129.027	129.027	129.027	129.027	129.027	129.027	129.027
35.0	63.160	63.160	63.160	63.160	63.160	63.160	63.160	63.160	63.160	63.160
37.5	42.157	42.157	42.157	42.157	42.157	42.157	42.157	42.157	42.157	42.157
40.0	31.426	31.426	31.426	31.426	31.426	31.426	31.426	31.426	31.426	31.426
42.5	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375
45.0	18.856	18.856	18.856	18.856	18.856	18.856	18.856	18.856	18.856	18.856
47.5	13.950	13.950	13.950	13.950	13.950	13.950	13.950	13.950	13.950	13.950
50.0	10.067	10.067	10.067	10.067	10.067	10.067	10.067	10.067	10.067	10.067
52.5	6.745	6.745	6.745	6.745	6.745	6.745	6.745	6.745	6.745	6.745
55.0	4.599	4.599	4.599	4.599	4.599	4.599	4.599	4.599	4.599	4.599
57.5	3.066	3.066	3.066	3.066	3.066	3.066	3.066	3.066	3.066	3.066
60.0	2.146	2.146	2.146	2.146	2.146	2.146	2.146	2.146	2.146	2.146
62.5	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584
65.0	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124
67.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
70.0	0.613	0.613	0.613	0.613	0.613	0.613	0.613	0.613	0.613	0.613
72.5	0.460	0.460	0.460	0.460	0.460	0.460	0.460	0.460	0.460	0.460
75.0	0.307	0.307	0.307	0.307	0.307	0.307	0.307	0.307	0.307	0.307
77.5	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
80.0	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153
82.5	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102
85.0	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
87.5	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
112.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
115.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
117.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
120.0	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636
122.5	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636
125.0	2.454	2.454	2.454	2.454	2.454	2.454	2.454	2.454	2.454	2.454
127.5	3.272	3.272	3.272	3.272	3.272	3.272	3.272	3.272	3.272	3.272
130.0	4.090	4.090	4.090	4.090	4.090	4.090	4.090	4.090	4.090	4.090
132.5	5.726	5.726	5.726	5.726	5.726	5.726	5.726	5.726	5.726	5.726

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CANDELA TABULATION - (Cont.)

135.0	8.180	8.180	8.180	8.180	8.180	8.180	8.180	8.180	8.180	8.180
137.5	9.816	9.816	9.816	9.816	9.816	9.816	9.816	9.816	9.816	9.816
140.0	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270
142.5	15.542	15.542	15.542	15.542	15.542	15.542	15.542	15.542	15.542	15.542
145.0	18.814	18.814	18.814	18.814	18.814	18.814	18.814	18.814	18.814	18.814
147.5	25.358	25.358	25.358	25.358	25.358	25.358	25.358	25.358	25.358	25.358
150.0	73.620	73.620	73.620	73.620	73.620	73.620	73.620	73.620	73.620	73.620
152.5	292.844	292.844	292.844	292.844	292.844	292.844	292.844	292.844	292.844	292.844
155.0	505.524	505.524	505.524	505.524	505.524	505.524	505.524	505.524	505.524	505.524
157.5	561.148	561.148	561.148	561.148	561.148	561.148	561.148	561.148	561.148	561.148
160.0	593.868	593.868	593.868	593.868	593.868	593.868	593.868	593.868	593.868	593.868
162.5	652.764	652.764	652.764	652.764	652.764	652.764	652.764	652.764	652.764	652.764
165.0	765.648	765.648	765.648	765.648	765.648	765.648	765.648	765.648	765.648	765.648
167.5	971.784	971.784	971.784	971.784	971.784	971.784	971.784	971.784	971.784	971.784
170.0	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694
172.5	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645
175.0	5814.360	5814.360	5814.360	5814.360	5814.360	5814.359	5814.359	5814.359	5814.359	5814.359
177.5	13308.877	13308.877	13308.877	13308.877	13308.876	13308.876	13308.876	13308.875	13308.875	13308.875
180.0	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000

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	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955
2.5	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845
5.0	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943
7.5	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814
10.0	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881
12.5	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447
15.0	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590
17.5	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508
20.0	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448
22.5	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860
25.0	855.925	855.925	855.925	855.925	855.925	855.925	855.925
27.5	541.149	541.149	541.149	541.149	541.149	541.149	541.149
30.0	284.934	284.934	284.934	284.934	284.934	284.934	284.934
32.5	129.027	129.027	129.027	129.027	129.027	129.027	129.027
35.0	63.160	63.160	63.160	63.160	63.160	63.160	63.160
37.5	42.157	42.157	42.157	42.157	42.157	42.157	42.157
40.0	31.426	31.426	31.426	31.426	31.426	31.426	31.426
42.5	24.375	24.375	24.375	24.375	24.375	24.375	24.375
45.0	18.856	18.856	18.856	18.856	18.856	18.856	18.856
47.5	13.950	13.950	13.950	13.950	13.950	13.950	13.950
50.0	10.067	10.067	10.067	10.067	10.067	10.067	10.067
52.5	6.745	6.745	6.745	6.745	6.745	6.745	6.745
55.0	4.599	4.599	4.599	4.599	4.599	4.599	4.599
57.5	3.066	3.066	3.066	3.066	3.066	3.066	3.066
60.0	2.146	2.146	2.146	2.146	2.146	2.146	2.146
62.5	1.584	1.584	1.584	1.584	1.584	1.584	1.584
65.0	1.124	1.124	1.124	1.124	1.124	1.124	1.124
67.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818
70.0	0.613	0.613	0.613	0.613	0.613	0.613	0.613
72.5	0.460	0.460	0.460	0.460	0.460	0.460	0.460
75.0	0.307	0.307	0.307	0.307	0.307	0.307	0.307
77.5	0.204	0.204	0.204	0.204	0.204	0.204	0.204
80.0	0.153	0.153	0.153	0.153	0.153	0.153	0.153

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CANDELA TABULATION - (Cont.)

82.5	0.102	0.102	0.102	0.102	0.102	0.102	0.102
85.0	0.051	0.051	0.051	0.051	0.051	0.051	0.051
87.5	0.051	0.051	0.051	0.051	0.051	0.051	0.051
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818
112.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818
115.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818
117.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818
120.0	1.636	1.636	1.636	1.636	1.636	1.636	1.636
122.5	1.636	1.636	1.636	1.636	1.636	1.636	1.636
125.0	2.454	2.454	2.454	2.454	2.454	2.454	2.454
127.5	3.272	3.272	3.272	3.272	3.272	3.272	3.272
130.0	4.090	4.090	4.090	4.090	4.090	4.090	4.090
132.5	5.726	5.726	5.726	5.726	5.726	5.726	5.726
135.0	8.180	8.180	8.180	8.180	8.180	8.180	8.180
137.5	9.816	9.816	9.816	9.816	9.816	9.816	9.816
140.0	12.270	12.270	12.270	12.270	12.270	12.270	12.270
142.5	15.542	15.542	15.542	15.542	15.542	15.542	15.542
145.0	18.814	18.814	18.814	18.814	18.814	18.814	18.814
147.5	25.358	25.358	25.358	25.358	25.358	25.358	25.358
150.0	73.620	73.620	73.620	73.620	73.620	73.620	73.620
152.5	292.844	292.844	292.844	292.844	292.844	292.844	292.844
155.0	505.524	505.524	505.524	505.524	505.524	505.524	505.524
157.5	561.148	561.148	561.148	561.148	561.148	561.148	561.148
160.0	593.868	593.868	593.868	593.868	593.868	593.868	593.868
162.5	652.764	652.764	652.764	652.764	652.764	652.764	652.764
165.0	765.648	765.648	765.648	765.648	765.648	765.648	765.648
167.5	971.784	971.784	971.784	971.784	971.784	971.784	971.784
170.0	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694
172.5	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645
175.0	5814.359	5814.359	5814.360	5814.360	5814.360	5814.360	5814.360
177.5	13308.8751	13308.8761	13308.8761	13308.8761	13308.8771	13308.8771	13308.877
180.0	17079.0001	17079.0001	17079.0001	17079.0001	17079.0001	17079.0001	17079.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-OM-CSD-WM_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	771.04	N.A.	36.10
0-30	1148.84	N.A.	53.80
0-40	1207.76	N.A.	56.50
0-60	1227.16	N.A.	57.40
0-80	1228.72	N.A.	57.50
0-90	1228.8	N.A.	57.50
10-90	980.21	N.A.	45.90
20-40	436.72	N.A.	20.40
20-50	451.58	N.A.	21.10
40-70	20.61	N.A.	1.00
60-80	1.56	N.A.	0.10
70-80	0.36	N.A.	0.00
80-90	0.08	N.A.	0.00
90-110	0.11	N.A.	0.00
90-120	1.02	N.A.	0.00
90-130	3.29	N.A.	0.20
90-150	24.95	N.A.	1.20
90-180	907.47	N.A.	42.50
110-180	907.36	N.A.	42.50
0-180	2136.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	248.59
10-20	522.45
20-30	377.80
30-40	58.92
40-50	14.86
50-60	4.54
60-70	1.21
70-80	0.36
80-90	0.08
90-100	0.00
100-110	0.11
110-120	0.91
120-130	2.27
130-140	6.09
140-150	15.57
150-160	188.82
160-170	228.73
170-180	464.97

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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	109	109	109	109	101	101	101	101	88	88	88	75	75	75	63	63	63	58
1	103	100	97	94	96	93	91	89	82	80	79	71	70	69	61	60	60	55
2	97	92	87	84	91	86	83	79	76	74	71	67	65	64	58	57	56	52
3	91	85	79	75	86	80	76	72	71	68	66	63	61	59	56	55	53	50
4	86	79	73	69	81	75	70	66	67	64	61	60	58	56	54	52	51	48
5	82	73	68	63	77	70	65	61	63	60	57	57	55	52	52	50	48	46
6	78	69	63	59	73	66	61	57	60	56	53	55	52	50	50	48	46	44
7	74	65	59	55	70	62	57	53	57	53	50	52	49	47	48	46	44	42
8	70	61	55	51	67	59	54	50	54	50	47	50	47	45	46	44	42	40
9	67	58	52	48	64	56	51	47	52	48	45	48	45	43	44	42	40	39
10	64	55	49	46	61	53	48	45	49	45	43	46	43	41	42	40	39	37

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-OM-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	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	3H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	12H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

UGR Viewed Endwise

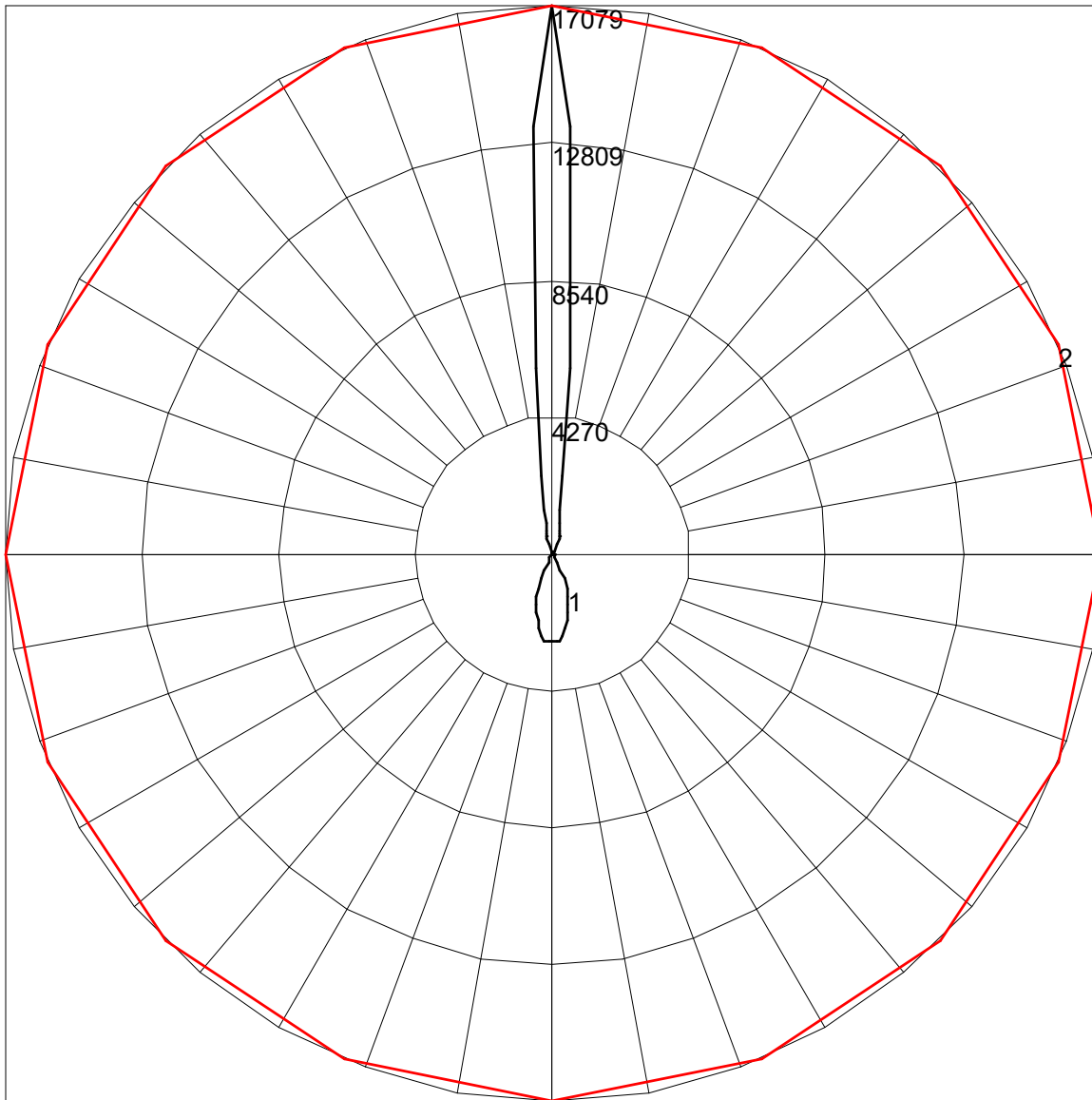
4H	2H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	3H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	12H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
8H	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	12H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
12H	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

Maximum UGR = 2.8

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-OM-CSD-WM_.IES

POLAR GRAPH



Maximum Candela = 17079 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.)