



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13255206.01 and #13257153.08

[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-LN-WHD-WM

[MORE]

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

[MORE] narrow distrib white painted flush prismatic lens 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	2211
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	64
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	61470	61470	61470
55	47408	47408	47408
65	37181	37181	37181
75	27892	27892	27892
85	15218	15218	15218

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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	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644
2.5	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414
5.0	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890
7.5	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000
10.0	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704
12.5	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410
15.0	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808
17.5	900.302	900.302	900.302	900.302	900.302	900.302	900.302	900.302	900.302	900.302
20.0	678.813	678.813	678.813	678.813	678.813	678.813	678.813	678.813	678.813	678.813
22.5	541.793	541.793	541.793	541.793	541.793	541.793	541.793	541.793	541.793	541.793
25.0	440.882	440.882	440.882	440.882	440.882	440.882	440.882	440.882	440.882	440.882
27.5	358.186	358.186	358.186	358.186	358.186	358.186	358.186	358.186	358.186	358.186
30.0	295.721	295.721	295.721	295.721	295.721	295.721	295.721	295.721	295.721	295.721
32.5	252.520	252.520	252.520	252.520	252.520	252.520	252.520	252.520	252.520	252.520
35.0	221.731	221.731	221.731	221.731	221.731	221.731	221.731	221.731	221.731	221.731
37.5	197.631	197.631	197.631	197.631	197.631	197.631	197.631	197.631	197.631	197.631
40.0	175.950	175.950	175.950	175.950	175.950	175.950	175.950	175.950	175.950	175.950
42.5	155.558	155.558	155.558	155.558	155.558	155.558	155.558	155.558	155.558	155.558
45.0	137.342	137.342	137.342	137.342	137.342	137.342	137.342	137.342	137.342	137.342
47.5	121.545	121.545	121.545	121.545	121.545	121.545	121.545	121.545	121.545	121.545
50.0	107.843	107.843	107.843	107.843	107.843	107.843	107.843	107.843	107.843	107.843
52.5	96.236	96.236	96.236	96.236	96.236	96.236	96.236	96.236	96.236	96.236
55.0	85.920	85.920	85.920	85.920	85.920	85.920	85.920	85.920	85.920	85.920
57.5	76.167	76.167	76.167	76.167	76.167	76.167	76.167	76.167	76.167	76.167
60.0	66.898	66.898	66.898	66.898	66.898	66.898	66.898	66.898	66.898	66.898
62.5	58.032	58.032	58.032	58.032	58.032	58.032	58.032	58.032	58.032	58.032
65.0	49.650	49.650	49.650	49.650	49.650	49.650	49.650	49.650	49.650	49.650
67.5	41.993	41.993	41.993	41.993	41.993	41.993	41.993	41.993	41.993	41.993
70.0	34.980	34.980	34.980	34.980	34.980	34.980	34.980	34.980	34.980	34.980
72.5	28.613	28.613	28.613	28.613	28.613	28.613	28.613	28.613	28.613	28.613
75.0	22.810	22.810	22.810	22.810	22.810	22.810	22.810	22.810	22.810	22.810
77.5	17.490	17.490	17.490	17.490	17.490	17.490	17.490	17.490	17.490	17.490
80.0	12.654	12.654	12.654	12.654	12.654	12.654	12.654	12.654	12.654	12.654
82.5	8.221	8.221	8.221	8.221	8.221	8.221	8.221	8.221	8.221	8.221
85.0	4.191	4.191	4.191	4.191	4.191	4.191	4.191	4.191	4.191	4.191
87.5	0.806	0.806	0.806	0.806	0.806	0.806	0.806	0.806	0.806	0.806
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	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644	4492.644
2.5	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414	4327.414
5.0	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890	3880.890
7.5	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000	3224.000
10.0	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704	2485.704
12.5	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410	1801.410
15.0	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808	1263.808
17.5	900.302	900.302	900.302	900.302	900.302	900.302	900.302
20.0	678.813	678.813	678.813	678.813	678.813	678.813	678.813
22.5	541.793	541.793	541.793	541.793	541.793	541.793	541.793
25.0	440.882	440.882	440.882	440.882	440.882	440.882	440.882
27.5	358.186	358.186	358.186	358.186	358.186	358.186	358.186
30.0	295.721	295.721	295.721	295.721	295.721	295.721	295.721
32.5	252.520	252.520	252.520	252.520	252.520	252.520	252.520
35.0	221.731	221.731	221.731	221.731	221.731	221.731	221.731
37.5	197.631	197.631	197.631	197.631	197.631	197.631	197.631
40.0	175.950	175.950	175.950	175.950	175.950	175.950	175.950
42.5	155.558	155.558	155.558	155.558	155.558	155.558	155.558
45.0	137.342	137.342	137.342	137.342	137.342	137.342	137.342
47.5	121.545	121.545	121.545	121.545	121.545	121.545	121.545
50.0	107.843	107.843	107.843	107.843	107.843	107.843	107.843
52.5	96.236	96.236	96.236	96.236	96.236	96.236	96.236
55.0	85.920	85.920	85.920	85.920	85.920	85.920	85.920
57.5	76.167	76.167	76.167	76.167	76.167	76.167	76.167
60.0	66.898	66.898	66.898	66.898	66.898	66.898	66.898
62.5	58.032	58.032	58.032	58.032	58.032	58.032	58.032
65.0	49.650	49.650	49.650	49.650	49.650	49.650	49.650
67.5	41.993	41.993	41.993	41.993	41.993	41.993	41.993
70.0	34.980	34.980	34.980	34.980	34.980	34.980	34.980
72.5	28.613	28.613	28.613	28.613	28.613	28.613	28.613
75.0	22.810	22.810	22.810	22.810	22.810	22.810	22.810
77.5	17.490	17.490	17.490	17.490	17.490	17.490	17.490
80.0	12.654	12.654	12.654	12.654	12.654	12.654	12.654

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-LN-WHD-WM_.IES****CANDELA TABULATION - (Cont.)**

82.5	8.221	8.221	8.221	8.221	8.221	8.221	8.221
85.0	4.191	4.191	4.191	4.191	4.191	4.191	4.191
87.5	0.806	0.806	0.806	0.806	0.806	0.806	0.806
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	13308.87513308.87613308.87613308.87613308.87713308.87713308.877						
180.0	17079.00017079.00017079.00017079.00017079.00017079.00017079.000						

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

Zone	Lumens	%Lamp	%Fixt
0-20	692.11	N.A.	31.30
0-30	898.55	N.A.	40.60
0-40	1039.68	N.A.	47.00
0-60	1223.87	N.A.	55.40
0-80	1297.89	N.A.	58.70
0-90	1303.2	N.A.	59.00
10-90	978.17	N.A.	44.20
20-40	347.57	N.A.	15.70
20-50	454.57	N.A.	20.60
40-70	233.76	N.A.	10.60
60-80	74.02	N.A.	3.30
70-80	24.44	N.A.	1.10
80-90	5.31	N.A.	0.20
90-110	0.11	N.A.	0.00
90-120	1.02	N.A.	0.00
90-130	3.29	N.A.	0.10
90-150	24.95	N.A.	1.10
90-180	907.47	N.A.	41.00
110-180	907.36	N.A.	41.00
0-180	2210.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	325.03
10-20	367.08
20-30	206.44
30-40	141.14
40-50	106.99
50-60	77.19
60-70	49.58
70-80	24.44
80-90	5.31
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	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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	102	99	96	93	95	93	90	88	81	79	77	70	69	68	61	60	59	54
2	95	90	85	81	89	84	80	77	74	71	69	65	63	61	57	56	54	50
3	89	82	76	71	84	77	72	68	69	65	62	61	58	56	54	52	50	47
4	84	75	69	64	79	71	66	62	64	60	57	57	54	52	51	49	47	44
5	79	70	63	58	74	66	61	56	60	55	52	54	51	48	48	46	44	41
6	75	65	58	54	70	62	56	52	56	52	48	51	47	45	46	43	41	39
7	71	61	54	50	67	58	52	48	53	48	45	48	45	42	44	41	39	37
8	67	57	51	46	63	55	49	45	50	46	42	46	42	40	42	39	37	35
9	64	54	48	44	60	52	46	42	48	43	40	44	40	38	40	38	36	34
10	61	51	45	41	58	49	44	40	45	41	38	42	39	36	39	36	34	33

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-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	18.1	18.9	19.1	19.8	21.0	18.1	18.9	19.1	19.8	21.0
	3H	19.4	20.1	20.3	21.0	22.2	19.4	20.1	20.3	21.0	22.2
	4H	19.8	20.4	20.7	21.4	22.5	19.8	20.4	20.7	21.4	22.5
	6H	20.0	20.6	21.0	21.6	22.8	20.0	20.6	21.0	21.6	22.8
	8H	20.1	20.7	21.1	21.6	22.8	20.1	20.7	21.1	21.6	22.8
	12H	20.1	20.6	21.1	21.6	22.8	20.1	20.6	21.1	21.6	22.8

UGR Viewed Endwise

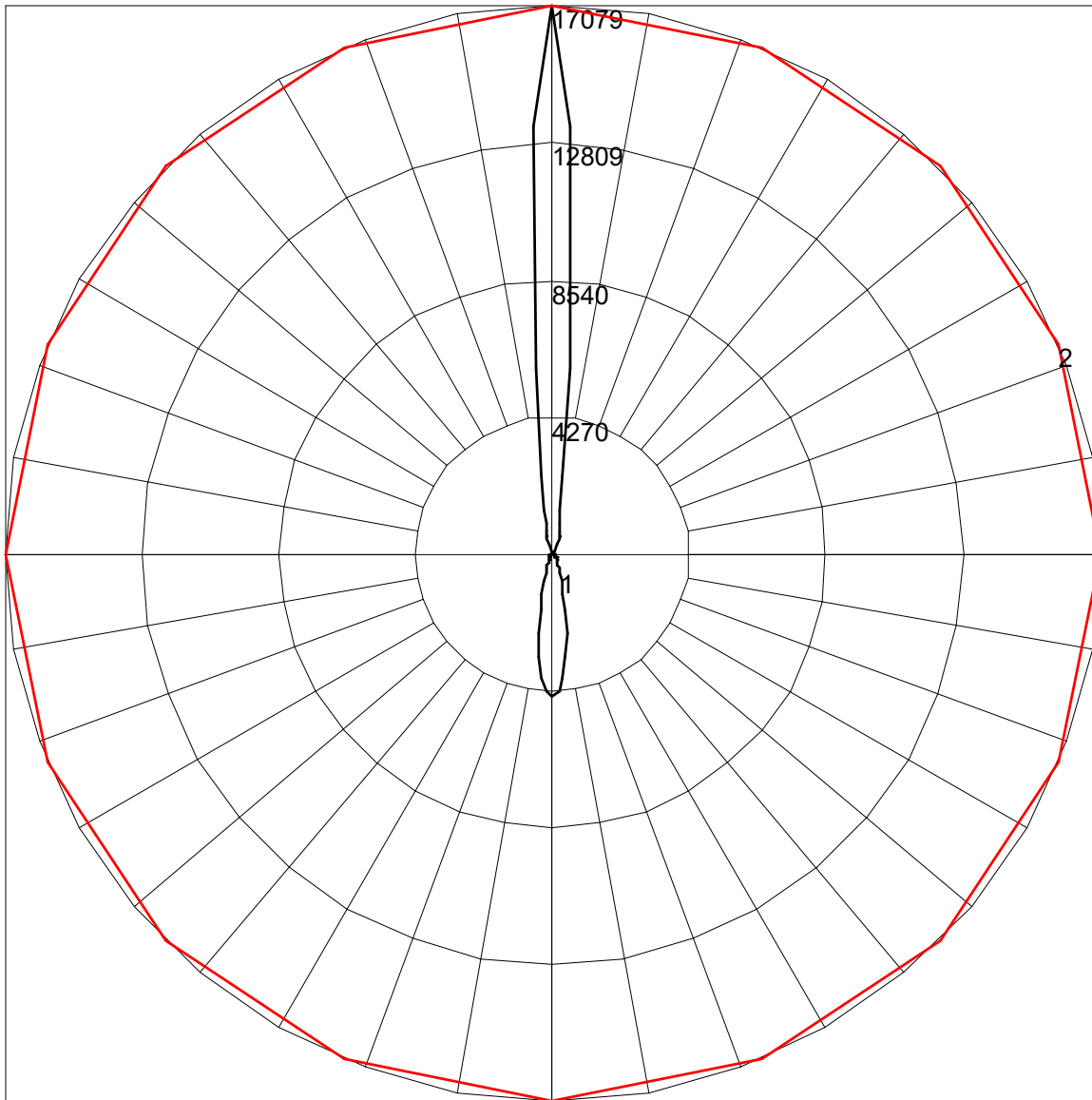
4H	2H	18.5	19.1	19.4	20.1	21.3	18.5	19.1	19.4	20.1	21.3
	3H	19.9	20.5	20.9	21.4	22.6	19.9	20.5	20.9	21.4	22.6
	4H	20.4	20.9	21.4	21.9	23.1	20.4	20.9	21.4	21.9	23.1
	6H	20.8	21.2	21.8	22.2	23.4	20.8	21.2	21.8	22.2	23.4
	8H	20.9	21.3	21.9	22.2	23.5	20.9	21.3	21.9	22.2	23.5
	12H	20.9	21.3	21.9	22.2	23.5	20.9	21.3	21.9	22.2	23.5
8H	4H	20.6	21.0	21.6	21.9	23.2	20.6	21.0	21.6	21.9	23.2
	6H	21.0	21.4	22.0	22.4	23.6	21.0	21.4	22.0	22.4	23.6
	8H	21.2	21.5	22.2	22.5	23.7	21.2	21.5	22.2	22.5	23.7
	12H	21.3	21.5	22.3	22.5	23.8	21.3	21.5	22.3	22.5	23.8
12H	4H	20.6	20.9	21.5	21.9	23.1	20.6	20.9	21.5	21.9	23.1
	6H	21.0	21.3	22.1	22.3	23.6	21.0	21.3	22.1	22.3	23.6
	8H	21.2	21.5	22.2	22.4	23.7	21.2	21.5	22.2	22.4	23.7

Maximum UGR = 23.8

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-LN-WHD-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.)