



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.10 and #13257153.08

[TESTLAB]

[ISSUE DATE] 10-FEB-2021

[MANUFAC] WILLIAMS INDOOR

[MORE] H E Williams Inc. - Carthage, MO

[LUMCAT] 4CRDI-L12-835U-L12-835D-xxx-DIM1-UNV-LW-CSU-LN-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib white painted flush prismatic lens trim 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	2697
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	28.5
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 w/ Sides
Luminous Length (0-180)	0.31 ft (Diameter)
Luminous Width (90-270)	0.31 ft (Diameter)
Luminous Height	1.44 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3963	3963	3963
55	2238	2238	2238
65	1212	1212	1212
75	539	539	539
85	99	99	99

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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	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395
92.5	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824
95.0	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789
97.5	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798
100.0	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850
102.5	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332
105.0	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244
107.5	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525
110.0	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296
112.5	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498
115.0	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129
117.5	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129
120.0	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128
122.5	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882
125.0	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145
127.5	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285
130.0	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978
132.5	93.267	93.267	93.267	93.267	93.267	93.267	93.267	93.267	93.267	93.267

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CANDELA TABULATION - (Cont.)

135.0	104.564	104.564	104.564	104.564	104.564	104.564	104.564	104.564	104.564	104.564
137.5	120.160	120.160	120.160	120.160	120.160	120.160	120.160	120.160	120.160	120.160
140.0	141.957	141.957	141.957	141.957	141.957	141.957	141.957	141.957	141.957	141.957
142.5	173.087	173.087	173.087	173.087	173.087	173.087	173.087	173.087	173.087	173.087
145.0	217.417	217.417	217.417	217.417	217.417	217.417	217.417	217.417	217.417	217.417
147.5	282.194	282.194	282.194	282.194	282.194	282.194	282.194	282.194	282.194	282.194
150.0	381.908	381.908	381.908	381.908	381.908	381.908	381.908	381.908	381.908	381.908
152.5	528.286	528.286	528.286	528.286	528.286	528.286	528.286	528.286	528.286	528.286
155.0	728.818	728.818	728.818	728.818	728.818	728.818	728.818	728.818	728.818	728.818
157.5	979.330	979.330	979.330	979.330	979.330	979.330	979.330	979.330	979.330	979.330
160.0	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402
162.5	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334
165.0	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794
167.5	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204
170.0	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968
172.5	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998
175.0	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662
177.5	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012
180.0	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000

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	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

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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	2.395	2.395	2.395	2.395	2.395	2.395	2.395
92.5	2.824	2.824	2.824	2.824	2.824	2.824	2.824
95.0	4.789	4.789	4.789	4.789	4.789	4.789	4.789
97.5	7.798	7.798	7.798	7.798	7.798	7.798	7.798
100.0	11.850	11.850	11.850	11.850	11.850	11.850	11.850
102.5	16.332	16.332	16.332	16.332	16.332	16.332	16.332
105.0	21.244	21.244	21.244	21.244	21.244	21.244	21.244
107.5	26.525	26.525	26.525	26.525	26.525	26.525	26.525
110.0	32.296	32.296	32.296	32.296	32.296	32.296	32.296
112.5	38.498	38.498	38.498	38.498	38.498	38.498	38.498
115.0	45.129	45.129	45.129	45.129	45.129	45.129	45.129
117.5	52.129	52.129	52.129	52.129	52.129	52.129	52.129
120.0	59.128	59.128	59.128	59.128	59.128	59.128	59.128
122.5	65.882	65.882	65.882	65.882	65.882	65.882	65.882
125.0	72.145	72.145	72.145	72.145	72.145	72.145	72.145
127.5	78.285	78.285	78.285	78.285	78.285	78.285	78.285
130.0	84.978	84.978	84.978	84.978	84.978	84.978	84.978
132.5	93.267	93.267	93.267	93.267	93.267	93.267	93.267
135.0	104.564	104.564	104.564	104.564	104.564	104.564	104.564
137.5	120.160	120.160	120.160	120.160	120.160	120.160	120.160
140.0	141.957	141.957	141.957	141.957	141.957	141.957	141.957
142.5	173.087	173.087	173.087	173.087	173.087	173.087	173.087
145.0	217.417	217.417	217.417	217.417	217.417	217.417	217.417
147.5	282.194	282.194	282.194	282.194	282.194	282.194	282.194
150.0	381.908	381.908	381.908	381.908	381.908	381.908	381.908
152.5	528.286	528.286	528.286	528.286	528.286	528.286	528.286
155.0	728.818	728.818	728.818	728.818	728.818	728.818	728.818
157.5	979.330	979.330	979.330	979.330	979.330	979.330	979.330
160.0	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402	1254.402
162.5	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334	1523.334
165.0	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794	1762.794
167.5	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204	1956.204
170.0	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968	2094.968
172.5	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998	2183.998
175.0	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662	2230.662
177.5	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012	2246.012
180.0	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000	2249.000

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

Zone	Lumens	%Lamp	%Fixt
0-20	692.11	N.A.	25.70
0-30	898.55	N.A.	33.30
0-40	1039.68	N.A.	38.60
0-60	1223.87	N.A.	45.40
0-80	1297.89	N.A.	48.10
0-90	1303.53	N.A.	48.30
10-90	978.50	N.A.	36.30
20-40	347.57	N.A.	12.90
20-50	454.57	N.A.	16.90
40-70	233.76	N.A.	8.70
60-80	74.02	N.A.	2.70
70-80	24.44	N.A.	0.90
80-90	5.64	N.A.	0.20
90-110	28.85	N.A.	1.10
90-120	73.71	N.A.	2.70
90-130	138.17	N.A.	5.10
90-150	365.06	N.A.	13.50
90-180	1393.12	N.A.	51.70
110-180	1364.28	N.A.	50.60
0-180	2696.65	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	5.64
90-100	6.13
100-110	22.71
110-120	44.86
120-130	64.46
130-140	82.95
140-150	143.95
150-160	341.48
160-170	477.91
170-180	208.67

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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	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	99	96	93	90	92	89	86	84	75	73	72	63	62	60	51	51	50	45
2	92	86	82	77	85	80	76	73	69	66	63	58	56	54	48	47	46	41
3	86	78	73	68	80	73	68	64	63	59	56	54	51	49	45	44	42	38
4	81	72	65	60	75	67	62	57	58	54	51	50	47	45	43	41	39	36
5	75	66	59	54	70	62	56	52	54	50	47	47	44	42	40	38	37	34
6	71	61	54	50	66	57	52	47	51	46	43	44	41	39	38	36	35	32
7	67	57	50	46	62	54	48	44	48	43	40	42	39	36	37	35	33	30
8	63	53	47	42	59	50	45	41	45	41	37	40	37	34	35	33	31	29
9	60	50	44	39	56	47	42	38	43	38	35	38	35	32	34	31	30	28
10	57	47	41	37	54	45	39	36	40	36	33	36	33	31	32	30	29	27

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-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	6.2	6.9	7.2	7.9	9.2	6.2	6.9	7.2	7.9	9.2
	3H	7.1	7.7	8.1	8.7	10.0	7.1	7.7	8.1	8.7	10.0
	4H	7.3	7.9	8.3	8.9	10.2	7.3	7.9	8.3	8.9	10.2
	6H	7.3	7.9	8.4	8.9	10.3	7.3	7.9	8.4	8.9	10.3
	8H	7.3	7.9	8.4	8.9	10.2	7.3	7.9	8.4	8.9	10.2
	12H	7.3	7.8	8.3	8.8	10.2	7.3	7.8	8.3	8.8	10.2

UGR Viewed Endwise

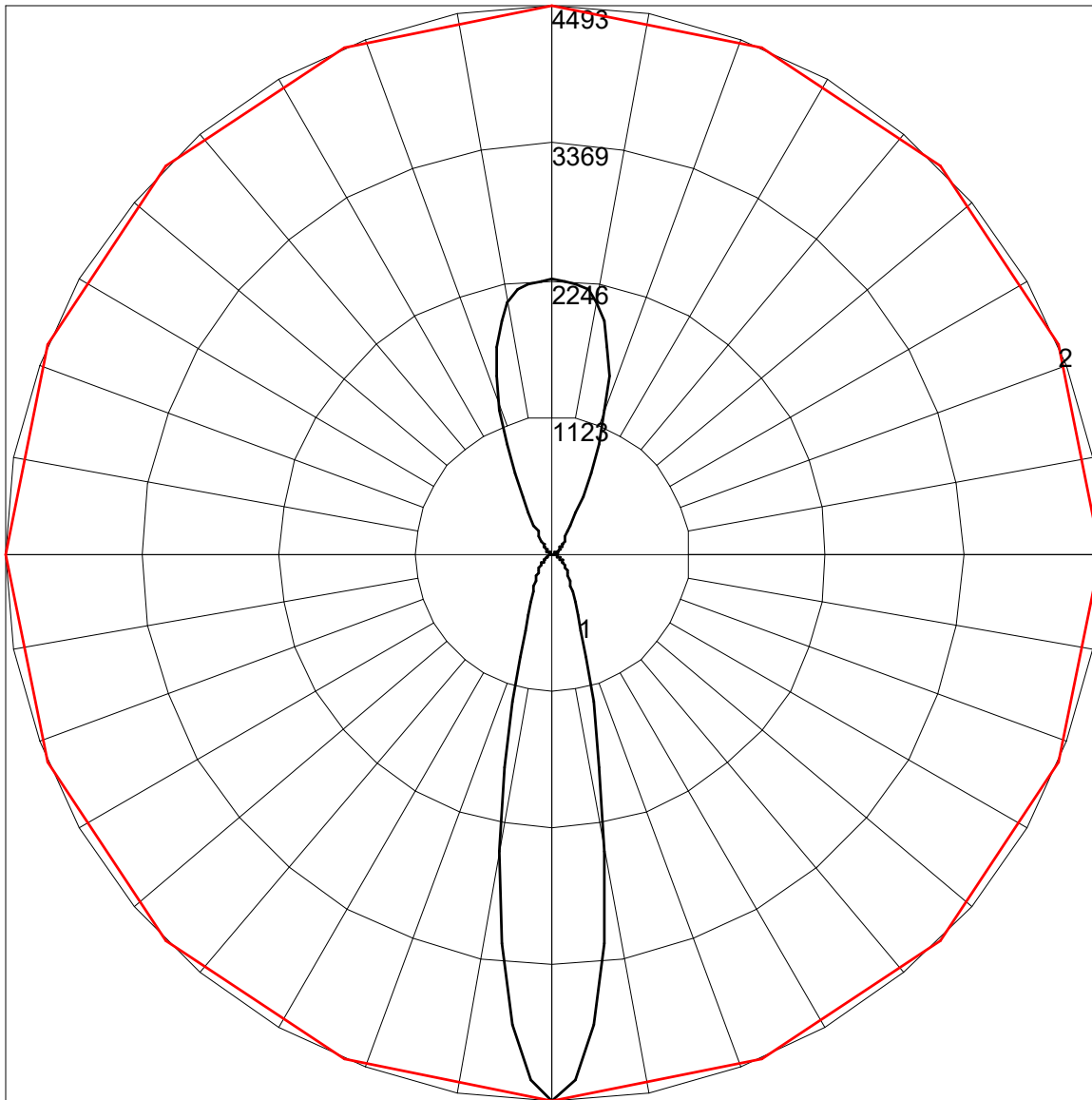
4H	2H	6.4	7.0	7.4	8.0	9.3	6.4	7.0	7.4	8.0	9.3
	3H	7.4	7.9	8.4	8.9	10.3	7.4	7.9	8.4	8.9	10.3
	4H	7.6	8.1	8.7	9.1	10.5	7.6	8.1	8.7	9.1	10.5
	6H	7.8	8.2	8.8	9.2	10.6	7.8	8.2	8.8	9.2	10.6
	8H	7.8	8.1	8.8	9.2	10.5	7.8	8.1	8.8	9.2	10.5
	12H	7.7	8.0	8.8	9.1	10.5	7.7	8.0	8.8	9.1	10.5
8H	4H	7.6	8.0	8.7	9.0	10.4	7.6	8.0	8.7	9.0	10.4
	6H	7.8	8.1	8.9	9.2	10.6	7.8	8.1	8.9	9.2	10.6
	8H	7.8	8.1	8.9	9.1	10.5	7.8	8.1	8.9	9.1	10.5
	12H	7.8	8.0	8.9	9.1	10.5	7.8	8.0	8.9	9.1	10.5
12H	4H	7.6	7.9	8.7	9.0	10.3	7.6	7.9	8.7	9.0	10.3
	6H	7.8	8.0	8.8	9.1	10.5	7.8	8.0	8.8	9.1	10.5
	8H	7.8	8.0	8.9	9.1	10.5	7.8	8.0	8.9	9.1	10.5

Maximum UGR = 10.6

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 4492.644 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.)