



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.10 and #13257153.06

[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-LM-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib white painted flush prismatic lens trim up,

[MORE] medium 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	2706
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	3975	3975	3975
55	2367	2367	2367
65	1344	1344	1344
75	632	632	632
85	118	118	118

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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	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089
2.5	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125
5.0	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198
7.5	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150
10.0	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157
12.5	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500
15.0	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160
17.5	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503
20.0	756.078	756.078	756.078	756.078	756.078	756.078	756.078	756.078	756.078	756.078
22.5	565.626	565.626	565.626	565.626	565.626	565.626	565.626	565.626	565.626	565.626
25.0	444.496	444.496	444.496	444.496	444.496	444.496	444.496	444.496	444.496	444.496
27.5	356.048	356.048	356.048	356.048	356.048	356.048	356.048	356.048	356.048	356.048
30.0	291.327	291.327	291.327	291.327	291.327	291.327	291.327	291.327	291.327	291.327
32.5	246.296	246.296	246.296	246.296	246.296	246.296	246.296	246.296	246.296	246.296
35.0	214.581	214.581	214.581	214.581	214.581	214.581	214.581	214.581	214.581	214.581
37.5	190.855	190.855	190.855	190.855	190.855	190.855	190.855	190.855	190.855	190.855
40.0	171.165	171.165	171.165	171.165	171.165	171.165	171.165	171.165	171.165	171.165
42.5	153.411	153.411	153.411	153.411	153.411	153.411	153.411	153.411	153.411	153.411
45.0	137.755	137.755	137.755	137.755	137.755	137.755	137.755	137.755	137.755	137.755
47.5	123.955	123.955	123.955	123.955	123.955	123.955	123.955	123.955	123.955	123.955
50.0	111.608	111.608	111.608	111.608	111.608	111.608	111.608	111.608	111.608	111.608
52.5	100.714	100.714	100.714	100.714	100.714	100.714	100.714	100.714	100.714	100.714
55.0	90.868	90.868	90.868	90.868	90.868	90.868	90.868	90.868	90.868	90.868
57.5	81.426	81.426	81.426	81.426	81.426	81.426	81.426	81.426	81.426	81.426
60.0	72.388	72.388	72.388	72.388	72.388	72.388	72.388	72.388	72.388	72.388
62.5	63.511	63.511	63.511	63.511	63.511	63.511	63.511	63.511	63.511	63.511
65.0	55.037	55.037	55.037	55.037	55.037	55.037	55.037	55.037	55.037	55.037
67.5	47.290	47.290	47.290	47.290	47.290	47.290	47.290	47.290	47.290	47.290
70.0	40.027	40.027	40.027	40.027	40.027	40.027	40.027	40.027	40.027	40.027
72.5	33.168	33.168	33.168	33.168	33.168	33.168	33.168	33.168	33.168	33.168
75.0	26.712	26.712	26.712	26.712	26.712	26.712	26.712	26.712	26.712	26.712
77.5	20.740	20.740	20.740	20.740	20.740	20.740	20.740	20.740	20.740	20.740
80.0	15.172	15.172	15.172	15.172	15.172	15.172	15.172	15.172	15.172	15.172
82.5	10.007	10.007	10.007	10.007	10.007	10.007	10.007	10.007	10.007	10.007
85.0	5.003	5.003	5.003	5.003	5.003	5.003	5.003	5.003	5.003	5.003
87.5	0.968	0.968	0.968	0.968	0.968	0.968	0.968	0.968	0.968	0.968
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. 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	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089	3169.089
2.5	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125	3127.125
5.0	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198	2997.198
7.5	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150	2784.150
10.0	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157	2462.157
12.5	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500	2017.500
15.0	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160	1517.160
17.5	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503	1072.503
20.0	756.078	756.078	756.078	756.078	756.078	756.078	756.078
22.5	565.626	565.626	565.626	565.626	565.626	565.626	565.626
25.0	444.496	444.496	444.496	444.496	444.496	444.496	444.496
27.5	356.048	356.048	356.048	356.048	356.048	356.048	356.048
30.0	291.327	291.327	291.327	291.327	291.327	291.327	291.327
32.5	246.296	246.296	246.296	246.296	246.296	246.296	246.296
35.0	214.581	214.581	214.581	214.581	214.581	214.581	214.581
37.5	190.855	190.855	190.855	190.855	190.855	190.855	190.855
40.0	171.165	171.165	171.165	171.165	171.165	171.165	171.165
42.5	153.411	153.411	153.411	153.411	153.411	153.411	153.411
45.0	137.755	137.755	137.755	137.755	137.755	137.755	137.755
47.5	123.955	123.955	123.955	123.955	123.955	123.955	123.955
50.0	111.608	111.608	111.608	111.608	111.608	111.608	111.608
52.5	100.714	100.714	100.714	100.714	100.714	100.714	100.714
55.0	90.868	90.868	90.868	90.868	90.868	90.868	90.868
57.5	81.426	81.426	81.426	81.426	81.426	81.426	81.426
60.0	72.388	72.388	72.388	72.388	72.388	72.388	72.388
62.5	63.511	63.511	63.511	63.511	63.511	63.511	63.511
65.0	55.037	55.037	55.037	55.037	55.037	55.037	55.037
67.5	47.290	47.290	47.290	47.290	47.290	47.290	47.290
70.0	40.027	40.027	40.027	40.027	40.027	40.027	40.027
72.5	33.168	33.168	33.168	33.168	33.168	33.168	33.168
75.0	26.712	26.712	26.712	26.712	26.712	26.712	26.712
77.5	20.740	20.740	20.740	20.740	20.740	20.740	20.740
80.0	15.172	15.172	15.172	15.172	15.172	15.172	15.172

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82.5	10.007	10.007	10.007	10.007	10.007	10.007	10.007
85.0	5.003	5.003	5.003	5.003	5.003	5.003	5.003
87.5	0.968	0.968	0.968	0.968	0.968	0.968	0.968
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-LM-WHD-WM_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	684.22	N.A.	25.30
0-30	896.86	N.A.	33.10
0-40	1034.1	N.A.	38.20
0-60	1222.75	N.A.	45.20
0-80	1306.18	N.A.	48.30
0-90	1312.91	N.A.	48.50
10-90	1043.52	N.A.	38.60
20-40	349.88	N.A.	12.90
20-50	457.00	N.A.	16.90
40-70	243.55	N.A.	9.00
60-80	83.42	N.A.	3.10
70-80	28.53	N.A.	1.10
80-90	6.73	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.	51.50
110-180	1364.28	N.A.	50.40
0-180	2706.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	269.39
10-20	414.84
20-30	212.63
30-40	137.24
40-50	107.12
50-60	81.53
60-70	54.90
70-80	28.53
80-90	6.73
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	83	83	83	68	68	68	55	55	55	49
1	99	96	93	90	92	89	86	83	75	73	72	63	61	60	51	51	50	45
2	92	86	81	77	85	80	76	72	68	65	63	58	56	54	48	47	46	41
3	86	78	72	67	79	73	68	64	63	59	56	54	51	49	45	43	42	38
4	80	71	65	60	74	67	61	57	58	54	51	50	47	45	42	40	39	35
5	75	65	59	54	70	61	56	51	54	49	46	47	44	41	40	38	36	33
6	71	60	54	49	66	57	51	47	50	46	42	44	41	38	38	36	34	31
7	66	56	50	45	62	53	47	43	47	43	39	41	38	36	36	34	32	30
8	63	52	46	41	59	50	44	40	44	40	37	39	36	34	35	32	30	28
9	59	49	43	39	56	47	41	37	42	37	34	37	34	32	33	31	29	27
10	56	46	40	36	53	44	39	35	40	35	32	36	32	30	32	29	28	26

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-LM-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	6.7	7.4	7.7	8.4	9.7	6.7	7.4	7.7	8.4	9.7
	3H	7.7	8.3	8.7	9.3	10.6	7.7	8.3	8.7	9.3	10.6
	4H	7.9	8.5	8.9	9.5	10.8	7.9	8.5	8.9	9.5	10.8
	6H	8.0	8.6	9.0	9.6	10.9	8.0	8.6	9.0	9.6	10.9
	8H	8.0	8.5	9.0	9.5	10.9	8.0	8.5	9.0	9.5	10.9
	12H	8.0	8.5	9.0	9.5	10.8	8.0	8.5	9.0	9.5	10.8

UGR Viewed Endwise

4H	2H	6.9	7.5	7.9	8.5	9.8	6.9	7.5	7.9	8.5	9.8
	3H	8.0	8.5	9.0	9.5	10.9	8.0	8.5	9.0	9.5	10.9
	4H	8.3	8.8	9.4	9.8	11.2	8.3	8.8	9.4	9.8	11.2
	6H	8.5	8.9	9.5	9.9	11.3	8.5	8.9	9.5	9.9	11.3
	8H	8.5	8.8	9.5	9.9	11.3	8.5	8.8	9.5	9.9	11.3
	12H	8.4	8.8	9.5	9.8	11.2	8.4	8.8	9.5	9.8	11.2

8H	4H	8.3	8.7	9.4	9.7	11.1	8.3	8.7	9.4	9.7	11.1
	6H	8.5	8.8	9.6	9.9	11.3	8.5	8.8	9.6	9.9	11.3
	8H	8.6	8.8	9.6	9.9	11.3	8.6	8.8	9.6	9.9	11.3
	12H	8.6	8.8	9.6	9.8	11.3	8.6	8.8	9.6	9.8	11.3

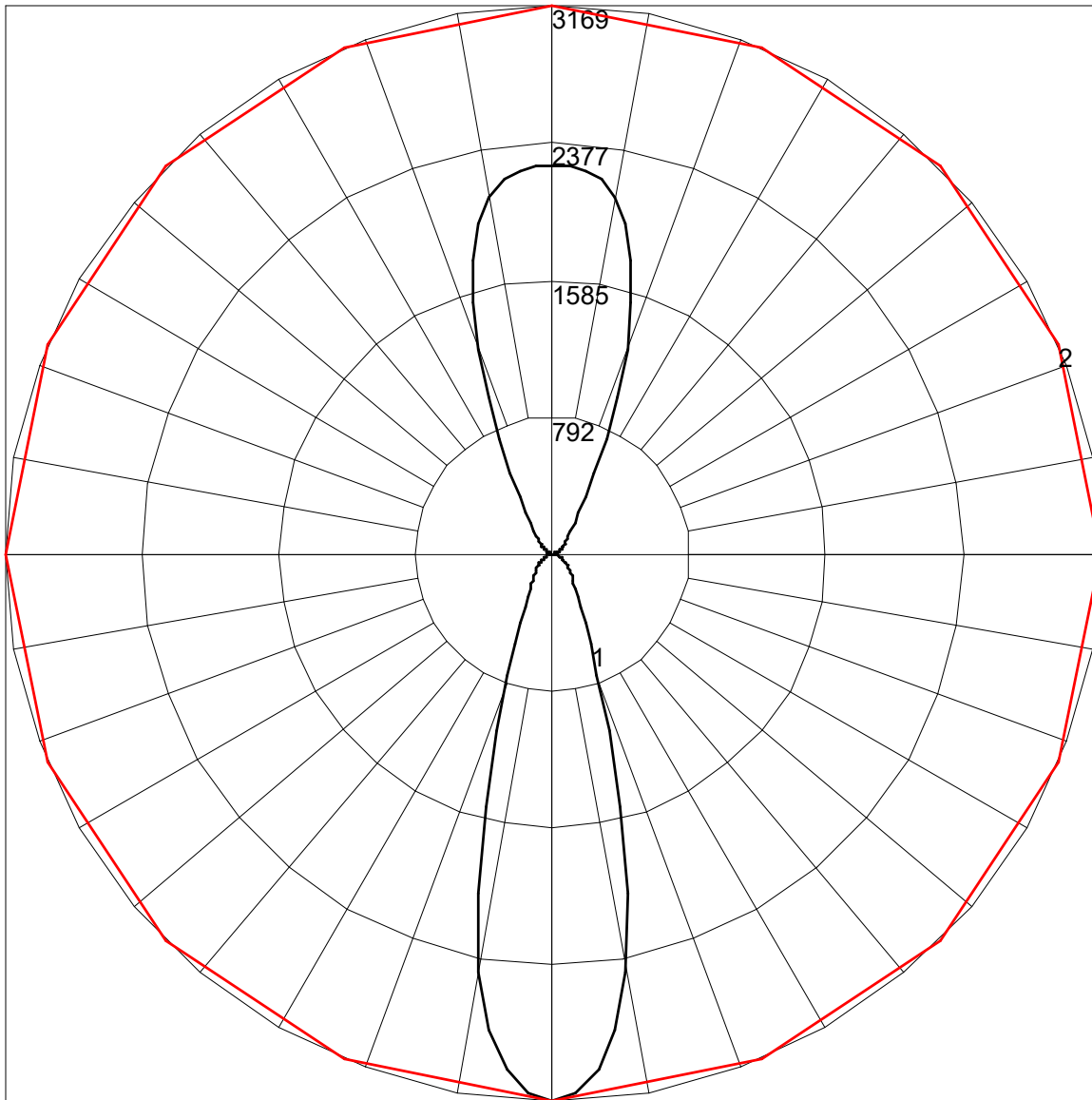
12H	4H	8.3	8.6	9.3	9.7	11.0	8.3	8.6	9.3	9.7	11.0
	6H	8.5	8.8	9.6	9.8	11.2	8.5	8.8	9.6	9.8	11.2
	8H	8.5	8.8	9.6	9.8	11.3	8.5	8.8	9.6	9.8	11.3

Maximum UGR = 11.3

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 3169.089 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.)