



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.10 and #13257153.03

[TESTLAB]

[ISSUE DATE] 11-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

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

[MORE]

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

[MORE] wide distrib white painted regressed 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	2710
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	3037	3037	3037
55	1760	1760	1760
65	908	908	908
75	281	281	281
85	57	57	57

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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	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580
2.5	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352
5.0	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405
7.5	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581
10.0	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494
12.5	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302
15.0	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584
17.5	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112
20.0	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430
22.5	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696
25.0	913.524	913.524	913.524	913.524	913.524	913.524	913.524	913.524	913.524	913.524
27.5	737.114	737.114	737.114	737.114	737.114	737.114	737.114	737.114	737.114	737.114
30.0	556.426	556.426	556.426	556.426	556.426	556.426	556.426	556.426	556.426	556.426
32.5	387.602	387.602	387.602	387.602	387.602	387.602	387.602	387.602	387.602	387.602
35.0	264.212	264.212	264.212	264.212	264.212	264.212	264.212	264.212	264.212	264.212
37.5	187.063	187.063	187.063	187.063	187.063	187.063	187.063	187.063	187.063	187.063
40.0	143.162	143.162	143.162	143.162	143.162	143.162	143.162	143.162	143.162	143.162
42.5	119.436	119.436	119.436	119.436	119.436	119.436	119.436	119.436	119.436	119.436
45.0	105.233	105.233	105.233	105.233	105.233	105.233	105.233	105.233	105.233	105.233
47.5	94.500	94.500	94.500	94.500	94.500	94.500	94.500	94.500	94.500	94.500
50.0	84.816	84.816	84.816	84.816	84.816	84.816	84.816	84.816	84.816	84.816
52.5	75.939	75.939	75.939	75.939	75.939	75.939	75.939	75.939	75.939	75.939
55.0	67.546	67.546	67.546	67.546	67.546	67.546	67.546	67.546	67.546	67.546
57.5	59.557	59.557	59.557	59.557	59.557	59.557	59.557	59.557	59.557	59.557
60.0	51.890	51.890	51.890	51.890	51.890	51.890	51.890	51.890	51.890	51.890
62.5	44.385	44.385	44.385	44.385	44.385	44.385	44.385	44.385	44.385	44.385
65.0	37.203	37.203	37.203	37.203	37.203	37.203	37.203	37.203	37.203	37.203
67.5	30.424	30.424	30.424	30.424	30.424	30.424	30.424	30.424	30.424	30.424
70.0	23.968	23.968	23.968	23.968	23.968	23.968	23.968	23.968	23.968	23.968
72.5	17.754	17.754	17.754	17.754	17.754	17.754	17.754	17.754	17.754	17.754
75.0	11.863	11.863	11.863	11.863	11.863	11.863	11.863	11.863	11.863	11.863
77.5	7.586	7.586	7.586	7.586	7.586	7.586	7.586	7.586	7.586	7.586
80.0	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649
82.5	3.954	3.954	3.954	3.954	3.954	3.954	3.954	3.954	3.954	3.954
85.0	2.421	2.421	2.421	2.421	2.421	2.421	2.421	2.421	2.421	2.421
87.5	1.049	1.049	1.049	1.049	1.049	1.049	1.049	1.049	1.049	1.049
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	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580	1565.580
2.5	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352	1562.352
5.0	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405
7.5	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581	1519.581
10.0	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494	1486.494
12.5	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302	1441.302
15.0	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584	1381.584
17.5	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112	1304.112
20.0	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430	1202.430
22.5	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696	1071.696
25.0	913.524	913.524	913.524	913.524	913.524	913.524	913.524
27.5	737.114	737.114	737.114	737.114	737.114	737.114	737.114
30.0	556.426	556.426	556.426	556.426	556.426	556.426	556.426
32.5	387.602	387.602	387.602	387.602	387.602	387.602	387.602
35.0	264.212	264.212	264.212	264.212	264.212	264.212	264.212
37.5	187.063	187.063	187.063	187.063	187.063	187.063	187.063
40.0	143.162	143.162	143.162	143.162	143.162	143.162	143.162
42.5	119.436	119.436	119.436	119.436	119.436	119.436	119.436
45.0	105.233	105.233	105.233	105.233	105.233	105.233	105.233
47.5	94.500	94.500	94.500	94.500	94.500	94.500	94.500
50.0	84.816	84.816	84.816	84.816	84.816	84.816	84.816
52.5	75.939	75.939	75.939	75.939	75.939	75.939	75.939
55.0	67.546	67.546	67.546	67.546	67.546	67.546	67.546
57.5	59.557	59.557	59.557	59.557	59.557	59.557	59.557
60.0	51.890	51.890	51.890	51.890	51.890	51.890	51.890
62.5	44.385	44.385	44.385	44.385	44.385	44.385	44.385
65.0	37.203	37.203	37.203	37.203	37.203	37.203	37.203
67.5	30.424	30.424	30.424	30.424	30.424	30.424	30.424
70.0	23.968	23.968	23.968	23.968	23.968	23.968	23.968
72.5	17.754	17.754	17.754	17.754	17.754	17.754	17.754
75.0	11.863	11.863	11.863	11.863	11.863	11.863	11.863
77.5	7.586	7.586	7.586	7.586	7.586	7.586	7.586
80.0	5.649	5.649	5.649	5.649	5.649	5.649	5.649

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82.5	3.954	3.954	3.954	3.954	3.954	3.954	3.954
85.0	2.421	2.421	2.421	2.421	2.421	2.421	2.421
87.5	1.049	1.049	1.049	1.049	1.049	1.049	1.049
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

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Zone	Lumens	%Lamp	%Fixt
0-20	529.33	N.A.	19.50
0-30	937.24	N.A.	34.60
0-40	1118.91	N.A.	41.30
0-60	1262.78	N.A.	46.60
0-80	1313.5	N.A.	48.50
0-90	1316.61	N.A.	48.60
10-90	1170.98	N.A.	43.20
20-40	589.58	N.A.	21.80
20-50	672.86	N.A.	24.80
40-70	180.90	N.A.	6.70
60-80	50.71	N.A.	1.90
70-80	13.68	N.A.	0.50
80-90	3.12	N.A.	0.10
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.	51.40
110-180	1364.28	N.A.	50.30
0-180	2709.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	145.63
10-20	383.70
20-30	407.91
30-40	181.67
40-50	83.28
50-60	60.59
60-70	37.03
70-80	13.68
80-90	3.12
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 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	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	84	75	73	72	63	62	61	51	51	50	45
2	92	86	81	77	85	80	76	72	69	66	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	50	50	47	45	42	40	39	35
5	75	65	58	53	69	61	55	51	54	49	46	46	43	41	40	38	36	33
6	70	60	53	48	65	56	50	46	50	45	42	43	40	38	37	35	33	31
7	66	55	49	44	61	52	46	42	46	42	38	41	37	35	35	33	31	29
8	62	51	45	40	58	49	43	39	43	39	35	38	35	32	33	31	29	27
9	58	48	41	37	54	45	40	36	40	36	33	36	33	30	32	29	27	26
10	55	45	38	34	52	42	37	33	38	34	31	34	31	28	30	28	26	24

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-RW-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	4.6	5.2	5.6	6.2	7.5	4.6	5.2	5.6	6.2	7.5
	3H	5.2	5.9	6.3	6.9	8.2	5.2	5.9	6.3	6.9	8.2
	4H	5.3	5.9	6.3	6.9	8.2	5.3	5.9	6.3	6.9	8.2
	6H	5.3	5.8	6.3	6.8	8.1	5.3	5.8	6.3	6.8	8.1
	8H	5.2	5.7	6.2	6.7	8.1	5.2	5.7	6.2	6.7	8.1
	12H	5.2	5.6	6.2	6.6	8.0	5.2	5.6	6.2	6.6	8.0

UGR Viewed Endwise

4H	2H	4.7	5.3	5.7	6.3	7.6	4.7	5.3	5.7	6.3	7.6
	3H	5.5	5.9	6.5	7.0	8.3	5.5	5.9	6.5	7.0	8.3
	4H	5.6	6.0	6.6	7.0	8.4	5.6	6.0	6.6	7.0	8.4
	6H	5.5	5.9	6.6	6.9	8.3	5.5	5.9	6.6	6.9	8.3
	8H	5.5	5.8	6.5	6.9	8.3	5.5	5.8	6.5	6.9	8.3
	12H	5.4	5.7	6.5	6.8	8.2	5.4	5.7	6.5	6.8	8.2

8H	4H	5.5	5.8	6.5	6.9	8.2	5.5	5.8	6.5	6.9	8.2
	6H	5.5	5.7	6.5	6.8	8.2	5.5	5.7	6.5	6.8	8.2
	8H	5.4	5.7	6.5	6.7	8.1	5.4	5.7	6.5	6.7	8.1
	12H	5.4	5.6	6.5	6.7	8.1	5.4	5.6	6.5	6.7	8.1

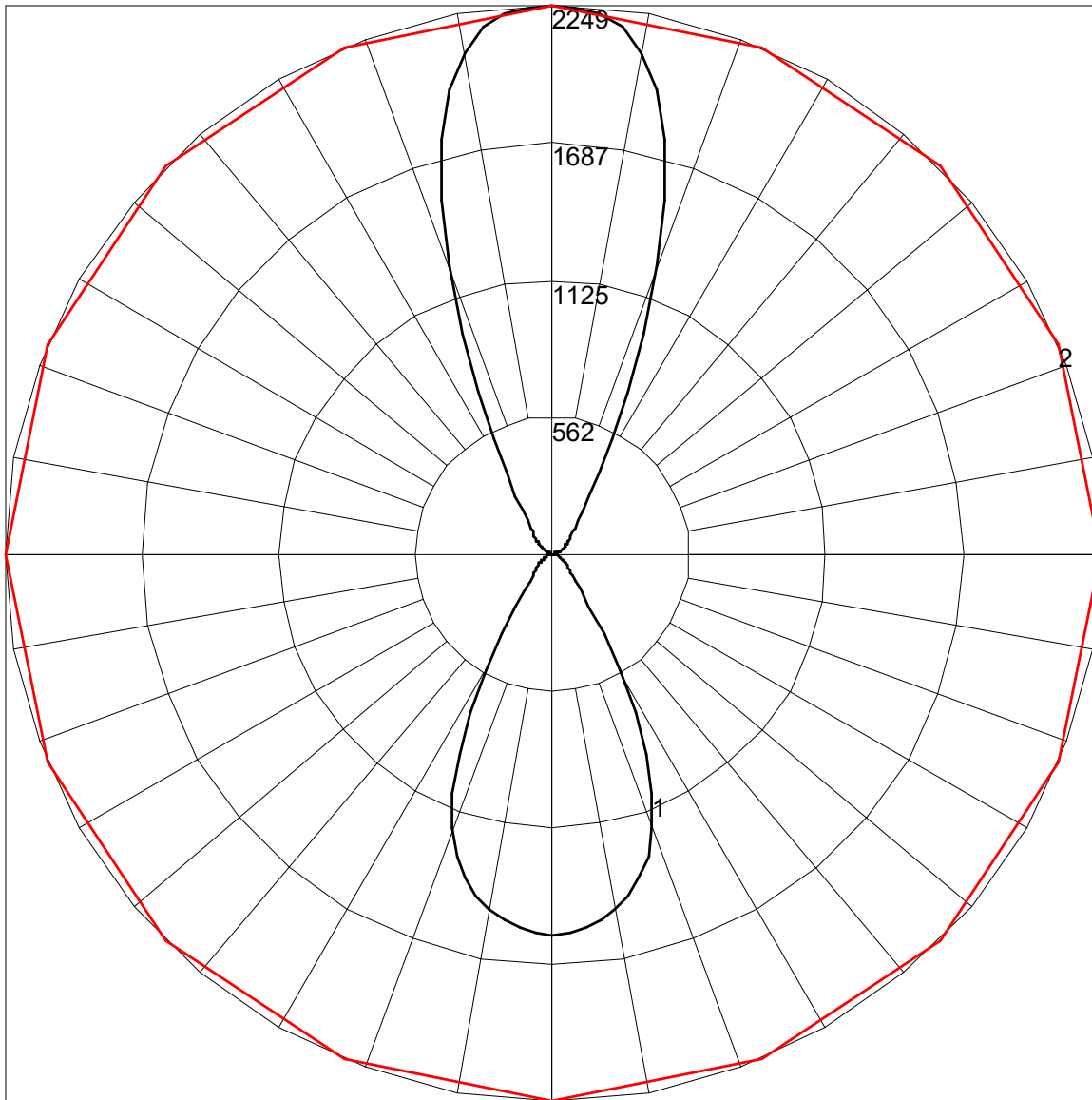
12H	4H	5.4	5.7	6.5	6.8	8.2	5.4	5.7	6.5	6.8	8.2
	6H	5.4	5.6	6.5	6.7	8.1	5.4	5.6	6.5	6.7	8.1
	8H	5.4	5.6	6.5	6.7	8.1	5.4	5.6	6.5	6.7	8.1

Maximum UGR = 8.4

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 2249 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.)