



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.06 and #13257153.03

[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-LM-CSU-RW-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, medium 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_SOURCETYPE] LED

[_SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[_SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2691
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
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
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	47099	47099	47099
55	37270	37270	37270
65	27860	27860	27860
75	14506	14506	14506
85	8791	8791	8791

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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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014
95.0	5.239	5.239	5.239	5.239	5.239	5.239	5.239	5.239	5.239	5.239
97.5	10.478	10.478	10.478	10.478	10.478	10.478	10.478	10.478	10.478	10.478
100.0	15.886	15.886	15.886	15.886	15.886	15.886	15.886	15.886	15.886	15.886
102.5	21.717	21.717	21.717	21.717	21.717	21.717	21.717	21.717	21.717	21.717
105.0	27.970	27.970	27.970	27.970	27.970	27.970	27.970	27.970	27.970	27.970
107.5	34.730	34.730	34.730	34.730	34.730	34.730	34.730	34.730	34.730	34.730
110.0	41.912	41.912	41.912	41.912	41.912	41.912	41.912	41.912	41.912	41.912
112.5	49.517	49.517	49.517	49.517	49.517	49.517	49.517	49.517	49.517	49.517
115.0	57.629	57.629	57.629	57.629	57.629	57.629	57.629	57.629	57.629	57.629
117.5	66.502	66.502	66.502	66.502	66.502	66.502	66.502	66.502	66.502	66.502
120.0	75.797	75.797	75.797	75.797	75.797	75.797	75.797	75.797	75.797	75.797
122.5	85.261	85.261	85.261	85.261	85.261	85.261	85.261	85.261	85.261	85.261
125.0	95.147	95.147	95.147	95.147	95.147	95.147	95.147	95.147	95.147	95.147
127.5	105.456	105.456	105.456	105.456	105.456	105.456	105.456	105.456	105.456	105.456
130.0	116.864	116.864	116.864	116.864	116.864	116.864	116.864	116.864	116.864	116.864
132.5	129.792	129.792	129.792	129.792	129.792	129.792	129.792	129.792	129.792	129.792

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CANDELA TABULATION - (Cont.)

135.0	144.242	144.242	144.242	144.242	144.242	144.242	144.242	144.242	144.242	144.242
137.5	160.635	160.635	160.635	160.635	160.635	160.635	160.635	160.635	160.635	160.635
140.0	179.225	179.225	179.225	179.225	179.225	179.225	179.225	179.225	179.225	179.225
142.5	199.843	199.843	199.843	199.843	199.843	199.843	199.843	199.843	199.843	199.843
145.0	224.686	224.686	224.686	224.686	224.686	224.686	224.686	224.686	224.686	224.686
147.5	257.894	257.894	257.894	257.894	257.894	257.894	257.894	257.894	257.894	257.894
150.0	305.045	305.045	305.045	305.045	305.045	305.045	305.045	305.045	305.045	305.045
152.5	372.814	372.814	372.814	372.814	372.814	372.814	372.814	372.814	372.814	372.814
155.0	465.426	465.426	465.426	465.426	465.426	465.426	465.426	465.426	465.426	465.426
157.5	592.261	592.261	592.261	592.261	592.261	592.261	592.261	592.261	592.261	592.261
160.0	791.681	791.681	791.681	791.681	791.681	791.681	791.681	791.681	791.681	791.681
162.5	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005
165.0	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600
167.5	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500
170.0	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095
172.5	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251
175.0	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330
177.5	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375
180.0	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000

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	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	1.014	1.014	1.014	1.014	1.014	1.014	1.014
95.0	5.239	5.239	5.239	5.239	5.239	5.239	5.239
97.5	10.478	10.478	10.478	10.478	10.478	10.478	10.478
100.0	15.886	15.886	15.886	15.886	15.886	15.886	15.886
102.5	21.717	21.717	21.717	21.717	21.717	21.717	21.717
105.0	27.970	27.970	27.970	27.970	27.970	27.970	27.970
107.5	34.730	34.730	34.730	34.730	34.730	34.730	34.730
110.0	41.912	41.912	41.912	41.912	41.912	41.912	41.912
112.5	49.517	49.517	49.517	49.517	49.517	49.517	49.517
115.0	57.629	57.629	57.629	57.629	57.629	57.629	57.629
117.5	66.502	66.502	66.502	66.502	66.502	66.502	66.502
120.0	75.797	75.797	75.797	75.797	75.797	75.797	75.797
122.5	85.261	85.261	85.261	85.261	85.261	85.261	85.261
125.0	95.147	95.147	95.147	95.147	95.147	95.147	95.147
127.5	105.456	105.456	105.456	105.456	105.456	105.456	105.456
130.0	116.864	116.864	116.864	116.864	116.864	116.864	116.864
132.5	129.792	129.792	129.792	129.792	129.792	129.792	129.792
135.0	144.242	144.242	144.242	144.242	144.242	144.242	144.242
137.5	160.635	160.635	160.635	160.635	160.635	160.635	160.635
140.0	179.225	179.225	179.225	179.225	179.225	179.225	179.225
142.5	199.843	199.843	199.843	199.843	199.843	199.843	199.843
145.0	224.686	224.686	224.686	224.686	224.686	224.686	224.686
147.5	257.894	257.894	257.894	257.894	257.894	257.894	257.894
150.0	305.045	305.045	305.045	305.045	305.045	305.045	305.045
152.5	372.814	372.814	372.814	372.814	372.814	372.814	372.814
155.0	465.426	465.426	465.426	465.426	465.426	465.426	465.426
157.5	592.261	592.261	592.261	592.261	592.261	592.261	592.261
160.0	791.681	791.681	791.681	791.681	791.681	791.681	791.681
162.5	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005	1123.005
165.0	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600	1588.600
167.5	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500	2112.500
170.0	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095	2578.095
172.5	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251	2915.251
175.0	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330	3138.330
177.5	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375	3274.375
180.0	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000	3318.000

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

Zone	Lumens	%Lamp	%Fixt
0-20	529.33	N.A.	19.70
0-30	937.24	N.A.	34.80
0-40	1118.91	N.A.	41.60
0-60	1262.78	N.A.	46.90
0-80	1313.5	N.A.	48.80
0-90	1316.29	N.A.	48.90
10-90	1170.66	N.A.	43.50
20-40	589.58	N.A.	21.90
20-50	672.86	N.A.	25.00
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	2.79	N.A.	0.10
90-110	36.58	N.A.	1.40
90-120	94.06	N.A.	3.50
90-130	179.43	N.A.	6.70
90-150	435.30	N.A.	16.20
90-180	1374.39	N.A.	51.10
110-180	1337.81	N.A.	49.70
0-180	2690.67	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	2.79
90-100	6.71
100-110	29.87
110-120	57.48
120-130	85.37
130-140	112.16
140-150	143.71
150-160	222.65
160-170	434.37
170-180	282.07

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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	74	72	63	62	61	52	51	50	45
2	93	87	82	77	85	80	76	73	69	66	63	58	56	54	48	47	46	42
3	86	78	72	68	80	73	68	64	63	59	56	54	51	49	45	44	42	38
4	80	71	65	60	74	67	61	57	58	54	51	50	47	45	43	41	39	36
5	75	65	59	54	70	61	55	51	54	49	46	47	43	41	40	38	36	33
6	70	60	53	48	65	57	51	46	50	45	42	44	40	38	38	35	34	31
7	66	55	49	44	61	52	46	42	46	42	39	41	37	35	36	33	31	29
8	62	51	45	40	58	49	43	39	43	39	36	38	35	32	34	31	29	27
9	58	48	41	37	55	45	40	36	41	36	33	36	33	30	32	29	28	26
10	55	45	39	34	52	43	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-LM-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	15.5	16.2	16.5	17.2	18.5	15.5	16.2	16.5	17.2	18.5
	3H	16.5	17.1	17.5	18.1	19.5	16.5	17.1	17.5	18.1	19.5
	4H	16.7	17.3	17.7	18.3	19.6	16.7	17.3	17.7	18.3	19.6
	6H	16.7	17.2	17.8	18.3	19.6	16.7	17.2	17.8	18.3	19.6
	8H	16.7	17.2	17.8	18.2	19.6	16.7	17.2	17.8	18.2	19.6
	12H	16.7	17.2	17.7	18.2	19.5	16.7	17.2	17.7	18.2	19.5

UGR Viewed Endwise

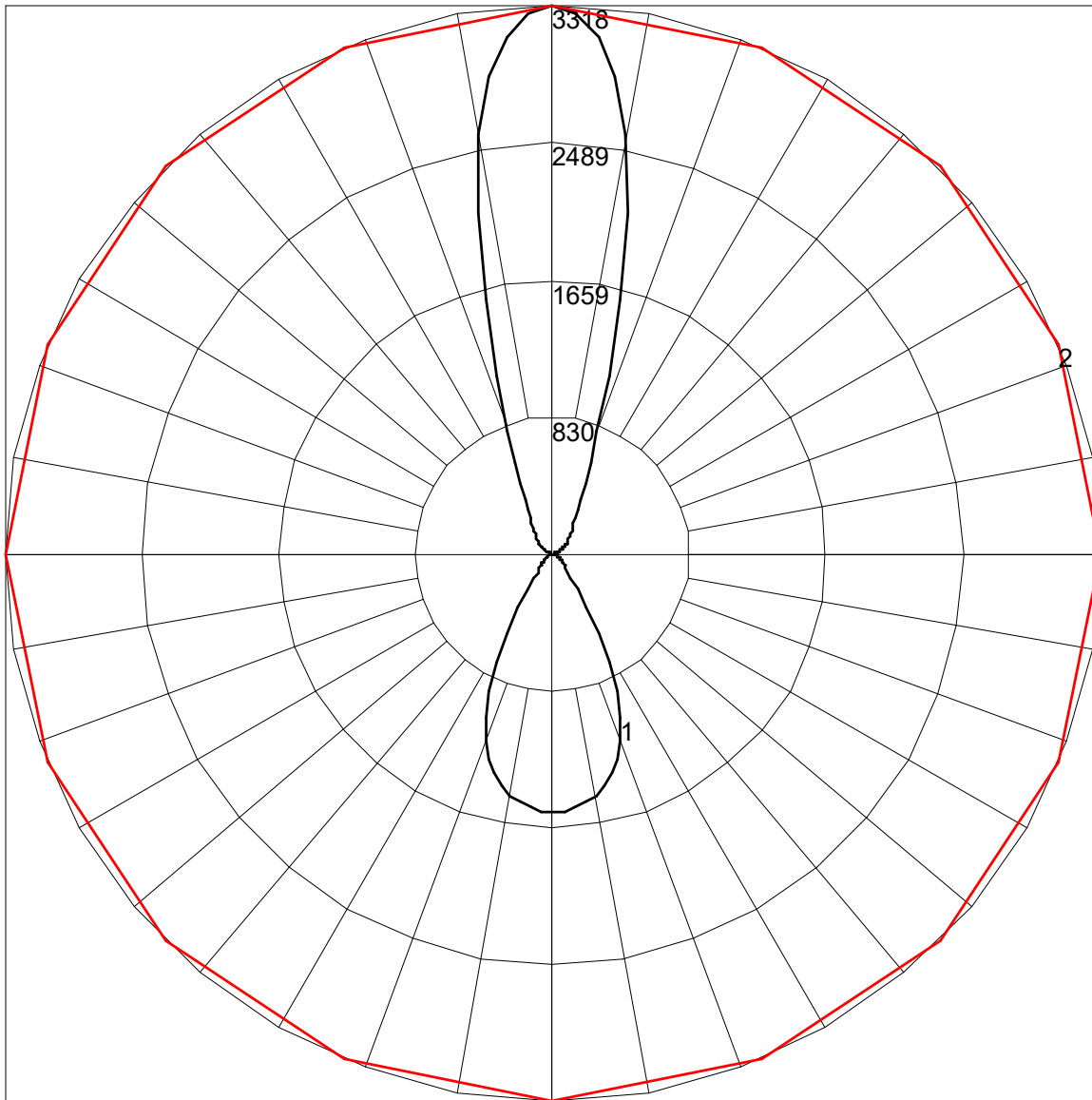
4H	2H	15.8	16.4	16.8	17.4	18.7	15.8	16.4	16.8	17.4	18.7
	3H	17.0	17.4	18.0	18.5	19.8	17.0	17.4	18.0	18.5	19.8
	4H	17.2	17.6	18.2	18.7	20.0	17.2	17.6	18.2	18.7	20.0
	6H	17.3	17.6	18.3	18.7	20.1	17.3	17.6	18.3	18.7	20.1
	8H	17.3	17.6	18.3	18.7	20.0	17.3	17.6	18.3	18.7	20.0
	12H	17.3	17.6	18.3	18.6	20.0	17.3	17.6	18.3	18.6	20.0
8H	4H	17.2	17.5	18.3	18.6	20.0	17.2	17.5	18.3	18.6	20.0
	6H	17.3	17.6	18.4	18.7	20.1	17.3	17.6	18.4	18.7	20.1
	8H	17.3	17.6	18.4	18.7	20.1	17.3	17.6	18.4	18.7	20.1
	12H	17.4	17.6	18.5	18.6	20.1	17.4	17.6	18.5	18.6	20.1
12H	4H	17.1	17.4	18.2	18.5	19.9	17.1	17.4	18.2	18.5	19.9
	6H	17.3	17.5	18.3	18.6	20.0	17.3	17.5	18.3	18.6	20.0
	8H	17.3	17.5	18.4	18.6	20.0	17.3	17.5	18.4	18.6	20.0

Maximum UGR = 20.1

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 3318 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.)