



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13571228.02 and #13257153.03

[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-OW-CSU-RW-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib anodized aluminum reflector trim w/clear cover glass 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	2354
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	83
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	2.272	2.272	2.272	2.272	2.272	2.272	2.272	2.272	2.272	2.272
92.5	2.517	2.517	2.517	2.517	2.517	2.517	2.517	2.517	2.517	2.517
95.0	2.886	2.886	2.886	2.886	2.886	2.886	2.886	2.886	2.886	2.886
97.5	3.438	3.438	3.438	3.438	3.438	3.438	3.438	3.438	3.438	3.438
100.0	4.175	4.175	4.175	4.175	4.175	4.175	4.175	4.175	4.175	4.175
102.5	4.973	4.973	4.973	4.973	4.973	4.973	4.973	4.973	4.973	4.973
105.0	5.956	5.956	5.956	5.956	5.956	5.956	5.956	5.956	5.956	5.956
107.5	7.184	7.184	7.184	7.184	7.184	7.184	7.184	7.184	7.184	7.184
110.0	8.719	8.719	8.719	8.719	8.719	8.719	8.719	8.719	8.719	8.719
112.5	10.622	10.622	10.622	10.622	10.622	10.622	10.622	10.622	10.622	10.622
115.0	13.078	13.078	13.078	13.078	13.078	13.078	13.078	13.078	13.078	13.078
117.5	16.148	16.148	16.148	16.148	16.148	16.148	16.148	16.148	16.148	16.148
120.0	20.016	20.016	20.016	20.016	20.016	20.016	20.016	20.016	20.016	20.016
122.5	24.806	24.806	24.806	24.806	24.806	24.806	24.806	24.806	24.806	24.806
125.0	30.761	30.761	30.761	30.761	30.761	30.761	30.761	30.761	30.761	30.761
127.5	38.559	38.559	38.559	38.559	38.559	38.559	38.559	38.559	38.559	38.559
130.0	47.769	47.769	47.769	47.769	47.769	47.769	47.769	47.769	47.769	47.769
132.5	59.251	59.251	59.251	59.251	59.251	59.251	59.251	59.251	59.251	59.251

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CANDELA TABULATION - (Cont.)

135.0	78.039	78.039	78.039	78.039	78.039	78.039	78.039	78.039	78.039	78.039
137.5	117.581	117.581	117.581	117.581	117.581	117.581	117.581	117.581	117.581	117.581
140.0	189.603	189.603	189.603	189.603	189.603	189.603	189.603	189.603	189.603	189.603
142.5	285.571	285.571	285.571	285.571	285.571	285.571	285.571	285.571	285.571	285.571
145.0	376.136	376.136	376.136	376.136	376.136	376.136	376.136	376.136	376.136	376.136
147.5	459.211	459.211	459.211	459.211	459.211	459.211	459.211	459.211	459.211	459.211
150.0	564.819	564.819	564.819	564.819	564.819	564.819	564.819	564.819	564.819	564.819
152.5	679.698	679.698	679.698	679.698	679.698	679.698	679.698	679.698	679.698	679.698
155.0	786.534	786.534	786.534	786.534	786.534	786.534	786.534	786.534	786.534	786.534
157.5	838.110	838.110	838.110	838.110	838.110	838.110	838.110	838.110	838.110	838.110
160.0	861.442	861.442	861.442	861.442	861.442	861.442	861.442	861.442	861.442	861.442
162.5	873.108	873.108	873.108	873.108	873.108	873.108	873.108	873.108	873.108	873.108
165.0	898.282	898.282	898.282	898.282	898.282	898.282	898.282	898.282	898.282	898.282
167.5	922.842	922.842	922.842	922.842	922.842	922.842	922.842	922.842	922.842	922.842
170.0	930.210	930.210	930.210	930.210	930.210	930.210	930.210	930.210	930.210	930.210
172.5	910.562	910.562	910.562	910.562	910.562	910.562	910.562	910.562	910.562	910.562
175.0	882.318	882.318	882.318	882.318	882.318	882.318	882.318	882.318	882.318	882.318
177.5	852.846	852.846	852.846	852.846	852.846	852.846	852.846	852.846	852.846	852.846
180.0	840.000	840.000	840.000	840.000	840.000	840.000	840.000	840.000	840.000	840.000

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

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

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	2.272	2.272	2.272	2.272	2.272	2.272	2.272
92.5	2.517	2.517	2.517	2.517	2.517	2.517	2.517
95.0	2.886	2.886	2.886	2.886	2.886	2.886	2.886
97.5	3.438	3.438	3.438	3.438	3.438	3.438	3.438
100.0	4.175	4.175	4.175	4.175	4.175	4.175	4.175
102.5	4.973	4.973	4.973	4.973	4.973	4.973	4.973
105.0	5.956	5.956	5.956	5.956	5.956	5.956	5.956
107.5	7.184	7.184	7.184	7.184	7.184	7.184	7.184
110.0	8.719	8.719	8.719	8.719	8.719	8.719	8.719
112.5	10.622	10.622	10.622	10.622	10.622	10.622	10.622
115.0	13.078	13.078	13.078	13.078	13.078	13.078	13.078
117.5	16.148	16.148	16.148	16.148	16.148	16.148	16.148
120.0	20.016	20.016	20.016	20.016	20.016	20.016	20.016
122.5	24.806	24.806	24.806	24.806	24.806	24.806	24.806
125.0	30.761	30.761	30.761	30.761	30.761	30.761	30.761
127.5	38.559	38.559	38.559	38.559	38.559	38.559	38.559
130.0	47.769	47.769	47.769	47.769	47.769	47.769	47.769
132.5	59.251	59.251	59.251	59.251	59.251	59.251	59.251
135.0	78.039	78.039	78.039	78.039	78.039	78.039	78.039
137.5	117.581	117.581	117.581	117.581	117.581	117.581	117.581
140.0	189.603	189.603	189.603	189.603	189.603	189.603	189.603
142.5	285.571	285.571	285.571	285.571	285.571	285.571	285.571
145.0	376.136	376.136	376.136	376.136	376.136	376.136	376.136
147.5	459.211	459.211	459.211	459.211	459.211	459.211	459.211
150.0	564.819	564.819	564.819	564.819	564.819	564.819	564.819
152.5	679.698	679.698	679.698	679.698	679.698	679.698	679.698
155.0	786.534	786.534	786.534	786.534	786.534	786.534	786.534
157.5	838.110	838.110	838.110	838.110	838.110	838.110	838.110
160.0	861.442	861.442	861.442	861.442	861.442	861.442	861.442
162.5	873.108	873.108	873.108	873.108	873.108	873.108	873.108
165.0	898.282	898.282	898.282	898.282	898.282	898.282	898.282
167.5	922.842	922.842	922.842	922.842	922.842	922.842	922.842
170.0	930.210	930.210	930.210	930.210	930.210	930.210	930.210
172.5	910.562	910.562	910.562	910.562	910.562	910.562	910.562
175.0	882.318	882.318	882.318	882.318	882.318	882.318	882.318
177.5	852.846	852.846	852.846	852.846	852.846	852.846	852.846
180.0	840.000	840.000	840.000	840.000	840.000	840.000	840.000

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

Zone	Lumens	%Lamp	%Fixt
0-20	529.33	N.A.	22.50
0-30	937.24	N.A.	39.80
0-40	1118.91	N.A.	47.50
0-60	1262.78	N.A.	53.60
0-80	1313.5	N.A.	55.80
0-90	1316.6	N.A.	55.90
10-90	1170.97	N.A.	49.70
20-40	589.58	N.A.	25.00
20-50	672.86	N.A.	28.60
40-70	180.90	N.A.	7.70
60-80	50.71	N.A.	2.20
70-80	13.68	N.A.	0.60
80-90	3.10	N.A.	0.10
90-110	9.77	N.A.	0.40
90-120	23.15	N.A.	1.00
90-130	51.62	N.A.	2.20
90-150	353.37	N.A.	15.00
90-180	1037.43	N.A.	44.10
110-180	1027.66	N.A.	43.70
0-180	2354.02	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	3.10
90-100	3.29
100-110	6.48
110-120	13.38
120-130	28.48
130-140	70.93
140-150	230.82
150-160	345.05
160-170	253.25
170-180	85.75

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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	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	101	98	95	92	94	91	89	86	79	77	76	68	67	66	58	57	56	52
2	94	89	84	80	88	83	79	75	73	70	67	63	61	59	54	53	52	48
3	88	81	75	70	82	76	71	67	67	63	60	59	56	54	51	49	47	44
4	82	74	67	62	77	69	64	60	62	57	54	54	51	49	48	46	44	41
5	77	68	61	56	72	64	58	54	57	53	49	51	48	45	45	43	41	38
6	72	62	56	51	68	59	53	49	53	49	45	48	44	41	42	40	38	35
7	68	58	51	46	64	55	49	45	50	45	42	45	41	38	40	37	35	33
8	64	54	47	43	60	51	45	41	47	42	39	42	38	36	38	35	33	31
9	61	50	44	40	57	48	42	38	44	39	36	40	36	34	36	33	31	29
10	57	47	41	37	54	45	39	36	41	37	34	38	34	32	34	31	29	28

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OW-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	5.3	6.0	6.2	6.9	8.1	5.3	6.0	6.2	6.9	8.1
	3H	6.0	6.6	6.9	7.6	8.8	6.0	6.6	6.9	7.6	8.8
	4H	6.0	6.6	7.0	7.6	8.8	6.0	6.6	7.0	7.6	8.8
	6H	6.0	6.5	6.9	7.5	8.7	6.0	6.5	6.9	7.5	8.7
	8H	5.9	6.5	6.9	7.4	8.7	5.9	6.5	6.9	7.4	8.7
	12H	5.9	6.4	6.9	7.3	8.6	5.9	6.4	6.9	7.3	8.6

UGR Viewed Endwise

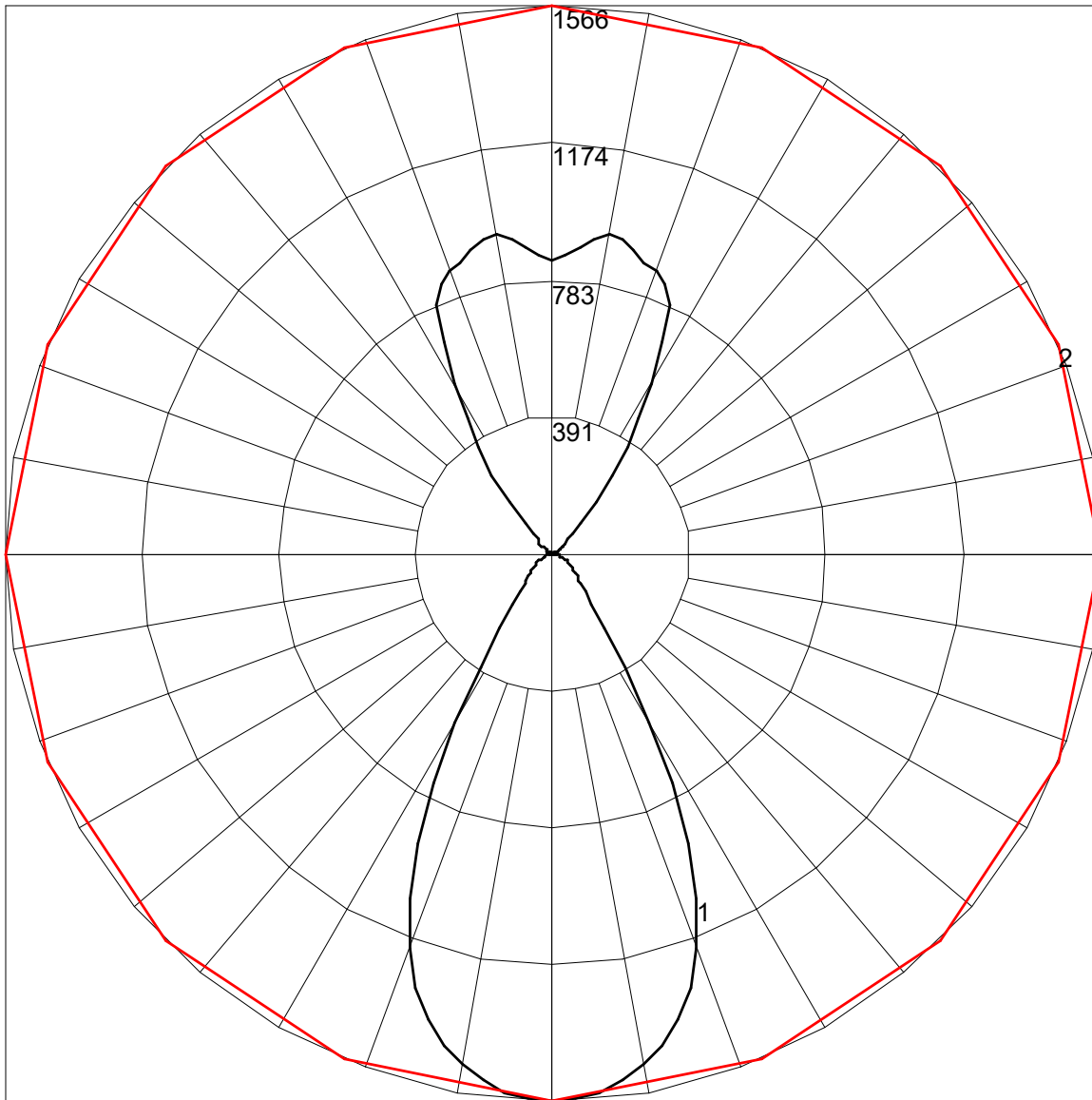
4H	2H	5.4	6.0	6.4	7.0	8.2	5.4	6.0	6.4	7.0	8.2
	3H	6.2	6.7	7.2	7.7	8.9	6.2	6.7	7.2	7.7	8.9
	4H	6.3	6.7	7.3	7.7	9.0	6.3	6.7	7.3	7.7	9.0
	6H	6.2	6.6	7.2	7.6	8.9	6.2	6.6	7.2	7.6	8.9
	8H	6.2	6.6	7.2	7.6	8.8	6.2	6.6	7.2	7.6	8.8
	12H	6.2	6.5	7.2	7.5	8.8	6.2	6.5	7.2	7.5	8.8
8H	4H	6.2	6.6	7.2	7.5	8.8	6.2	6.6	7.2	7.5	8.8
	6H	6.2	6.5	7.2	7.5	8.8	6.2	6.5	7.2	7.5	8.8
	8H	6.2	6.4	7.2	7.4	8.7	6.2	6.4	7.2	7.4	8.7
	12H	6.1	6.3	7.1	7.3	8.7	6.1	6.3	7.1	7.3	8.7
12H	4H	6.1	6.5	7.1	7.5	8.7	6.1	6.5	7.1	7.5	8.7
	6H	6.1	6.4	7.1	7.4	8.7	6.1	6.4	7.1	7.4	8.7
	8H	6.1	6.3	7.1	7.3	8.7	6.1	6.3	7.1	7.3	8.7

Maximum UGR = 9.0

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 1565.58 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.)