



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13571228.02 and #13257153.01

[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-LW-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, wide distrib anodized aluminum reflector trim w/clear cover glass up,

[MORE] wide distrib white painted flush 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	2368
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	3530	3530	3530
55	2258	2258	2258
65	1332	1332	1332
75	638	638	638
85	120	120	120

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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	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387
2.5	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545
5.0	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405
7.5	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809
10.0	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336
12.5	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951
15.0	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426
17.5	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691
20.0	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255
22.5	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469
25.0	832.824	832.824	832.824	832.824	832.824	832.824	832.824	832.824	832.824	832.824
27.5	638.337	638.337	638.337	638.337	638.337	638.337	638.337	638.337	638.337	638.337
30.0	463.944	463.944	463.944	463.944	463.944	463.944	463.944	463.944	463.944	463.944
32.5	330.386	330.386	330.386	330.386	330.386	330.386	330.386	330.386	330.386	330.386
35.0	241.212	241.212	241.212	241.212	241.212	241.212	241.212	241.212	241.212	241.212
37.5	186.820	186.820	186.820	186.820	186.820	186.820	186.820	186.820	186.820	186.820
40.0	154.944	154.944	154.944	154.944	154.944	154.944	154.944	154.944	154.944	154.944
42.5	135.415	135.415	135.415	135.415	135.415	135.415	135.415	135.415	135.415	135.415
45.0	122.341	122.341	122.341	122.341	122.341	122.341	122.341	122.341	122.341	122.341
47.5	112.173	112.173	112.173	112.173	112.173	112.173	112.173	112.173	112.173	112.173
50.0	103.135	103.135	103.135	103.135	103.135	103.135	103.135	103.135	103.135	103.135
52.5	94.742	94.742	94.742	94.742	94.742	94.742	94.742	94.742	94.742	94.742
55.0	86.672	86.672	86.672	86.672	86.672	86.672	86.672	86.672	86.672	86.672
57.5	78.682	78.682	78.682	78.682	78.682	78.682	78.682	78.682	78.682	78.682
60.0	70.612	70.612	70.612	70.612	70.612	70.612	70.612	70.612	70.612	70.612
62.5	62.542	62.542	62.542	62.542	62.542	62.542	62.542	62.542	62.542	62.542
65.0	54.553	54.553	54.553	54.553	54.553	54.553	54.553	54.553	54.553	54.553
67.5	47.129	47.129	47.129	47.129	47.129	47.129	47.129	47.129	47.129	47.129
70.0	40.108	40.108	40.108	40.108	40.108	40.108	40.108	40.108	40.108	40.108
72.5	33.410	33.410	33.410	33.410	33.410	33.410	33.410	33.410	33.410	33.410
75.0	26.954	26.954	26.954	26.954	26.954	26.954	26.954	26.954	26.954	26.954
77.5	20.982	20.982	20.982	20.982	20.982	20.982	20.982	20.982	20.982	20.982
80.0	15.414	15.414	15.414	15.414	15.414	15.414	15.414	15.414	15.414	15.414
82.5	10.087	10.087	10.087	10.087	10.087	10.087	10.087	10.087	10.087	10.087
85.0	5.084	5.084	5.084	5.084	5.084	5.084	5.084	5.084	5.084	5.084
87.5	0.968	0.968	0.968	0.968	0.968	0.968	0.968	0.968	0.968	0.968
90.0	2.272	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. 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	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387	1566.387
2.5	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545	1561.545
5.0	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405	1545.405
7.5	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809	1522.809
10.0	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336	1491.336
12.5	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951	1446.951
15.0	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426	1386.426
17.5	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691	1301.691
20.0	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255	1182.255
22.5	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469	1022.469
25.0	832.824	832.824	832.824	832.824	832.824	832.824	832.824
27.5	638.337	638.337	638.337	638.337	638.337	638.337	638.337
30.0	463.944	463.944	463.944	463.944	463.944	463.944	463.944
32.5	330.386	330.386	330.386	330.386	330.386	330.386	330.386
35.0	241.212	241.212	241.212	241.212	241.212	241.212	241.212
37.5	186.820	186.820	186.820	186.820	186.820	186.820	186.820
40.0	154.944	154.944	154.944	154.944	154.944	154.944	154.944
42.5	135.415	135.415	135.415	135.415	135.415	135.415	135.415
45.0	122.341	122.341	122.341	122.341	122.341	122.341	122.341
47.5	112.173	112.173	112.173	112.173	112.173	112.173	112.173
50.0	103.135	103.135	103.135	103.135	103.135	103.135	103.135
52.5	94.742	94.742	94.742	94.742	94.742	94.742	94.742
55.0	86.672	86.672	86.672	86.672	86.672	86.672	86.672
57.5	78.682	78.682	78.682	78.682	78.682	78.682	78.682
60.0	70.612	70.612	70.612	70.612	70.612	70.612	70.612
62.5	62.542	62.542	62.542	62.542	62.542	62.542	62.542
65.0	54.553	54.553	54.553	54.553	54.553	54.553	54.553
67.5	47.129	47.129	47.129	47.129	47.129	47.129	47.129
70.0	40.108	40.108	40.108	40.108	40.108	40.108	40.108
72.5	33.410	33.410	33.410	33.410	33.410	33.410	33.410
75.0	26.954	26.954	26.954	26.954	26.954	26.954	26.954
77.5	20.982	20.982	20.982	20.982	20.982	20.982	20.982
80.0	15.414	15.414	15.414	15.414	15.414	15.414	15.414

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82.5	10.087	10.087	10.087	10.087	10.087	10.087	10.087
85.0	5.084	5.084	5.084	5.084	5.084	5.084	5.084
87.5	0.968	0.968	0.968	0.968	0.968	0.968	0.968
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-LW-CSD-WM_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	529.26	N.A.	22.40
0-30	903.06	N.A.	38.10
0-40	1067.08	N.A.	45.10
0-60	1240.71	N.A.	52.40
0-80	1323.77	N.A.	55.90
0-90	1330.56	N.A.	56.20
10-90	1184.72	N.A.	50.00
20-40	537.82	N.A.	22.70
20-50	633.90	N.A.	26.80
40-70	227.92	N.A.	9.60
60-80	83.06	N.A.	3.50
70-80	28.76	N.A.	1.20
80-90	6.79	N.A.	0.30
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.	14.90
90-180	1037.43	N.A.	43.80
110-180	1027.66	N.A.	43.40
0-180	2367.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	145.84
10-20	383.42
20-30	373.80
30-40	164.02
40-50	96.08
50-60	77.54
60-70	54.30
70-80	28.76
80-90	6.79
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	94	91	94	91	88	86	79	77	75	68	67	65	58	57	56	51
2	94	88	83	79	88	82	78	74	72	69	66	63	60	58	54	52	51	47
3	88	80	74	69	82	75	70	65	66	62	59	58	55	53	50	48	46	43
4	82	73	66	61	76	69	63	58	61	56	53	54	50	48	47	45	43	40
5	76	67	60	55	72	63	57	53	56	52	48	50	46	44	44	42	40	37
6	72	61	55	50	67	58	52	48	52	48	44	47	43	40	41	39	37	34
7	67	57	50	45	63	54	48	44	49	44	41	44	40	37	39	36	34	32
8	63	53	46	42	60	50	44	40	46	41	38	41	38	35	37	34	32	30
9	60	49	43	39	56	47	41	37	43	38	35	39	35	33	35	32	30	28
10	57	46	40	36	54	44	39	35	40	36	33	37	33	31	33	31	29	27

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OW-CSU-LW-CSD-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	7.2	7.9	8.1	8.8	10.0	7.2	7.9	8.1	8.8	10.0
	3H	8.2	8.9	9.1	9.8	11.0	8.2	8.9	9.1	9.8	11.0
	4H	8.5	9.1	9.4	10.0	11.3	8.5	9.1	9.4	10.0	11.3
	6H	8.6	9.2	9.5	10.1	11.3	8.6	9.2	9.5	10.1	11.3
	8H	8.6	9.1	9.5	10.1	11.3	8.6	9.1	9.5	10.1	11.3
	12H	8.5	9.1	9.5	10.0	11.3	8.5	9.1	9.5	10.0	11.3

UGR Viewed Endwise

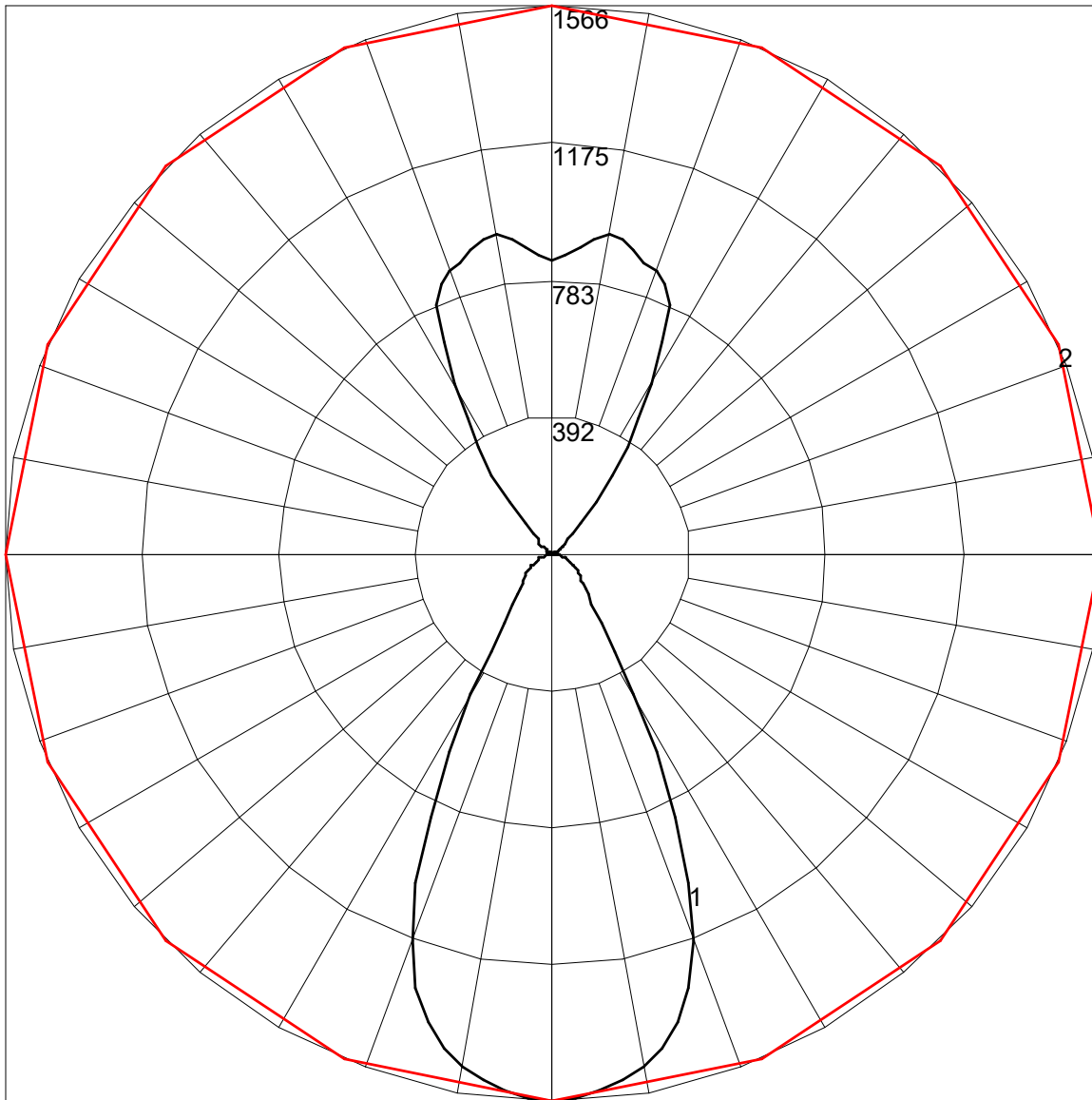
4H	2H	7.4	8.0	8.3	9.0	10.2	7.4	8.0	8.3	9.0	10.2
	3H	8.6	9.1	9.5	10.0	11.3	8.6	9.1	9.5	10.0	11.3
	4H	8.9	9.4	9.9	10.3	11.6	8.9	9.4	9.9	10.3	11.6
	6H	9.1	9.5	10.1	10.5	11.7	9.1	9.5	10.1	10.5	11.7
	8H	9.1	9.5	10.1	10.4	11.7	9.1	9.5	10.1	10.4	11.7
	12H	9.1	9.4	10.1	10.4	11.7	9.1	9.4	10.1	10.4	11.7
8H	4H	8.9	9.3	9.9	10.3	11.6	8.9	9.3	9.9	10.3	11.6
	6H	9.2	9.5	10.2	10.5	11.8	9.2	9.5	10.2	10.5	11.8
	8H	9.2	9.5	10.2	10.5	11.8	9.2	9.5	10.2	10.5	11.8
	12H	9.2	9.4	10.2	10.4	11.7	9.2	9.4	10.2	10.4	11.7
12H	4H	8.9	9.2	9.9	10.2	11.5	8.9	9.2	9.9	10.2	11.5
	6H	9.1	9.4	10.1	10.4	11.7	9.1	9.4	10.1	10.4	11.7
	8H	9.2	9.4	10.2	10.4	11.7	9.2	9.4	10.2	10.4	11.7

Maximum UGR = 11.8

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 1566.387 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.)