



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13571228.02 and #13131414.01

[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-OM-CSD-WM

[MORE]

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

[MORE] medium distrib anodized alum open reflector 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	2267
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
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	544	544	544
55	120	120	120
65	27	27	27
75	7	7	7
85	1	1	1

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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	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955
2.5	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845
5.0	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943
7.5	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814
10.0	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881
12.5	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447
15.0	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590
17.5	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508
20.0	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448
22.5	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860
25.0	855.925	855.925	855.925	855.925	855.925	855.925	855.925	855.925	855.925	855.925
27.5	541.149	541.149	541.149	541.149	541.149	541.149	541.149	541.149	541.149	541.149
30.0	284.934	284.934	284.934	284.934	284.934	284.934	284.934	284.934	284.934	284.934
32.5	129.027	129.027	129.027	129.027	129.027	129.027	129.027	129.027	129.027	129.027
35.0	63.160	63.160	63.160	63.160	63.160	63.160	63.160	63.160	63.160	63.160
37.5	42.157	42.157	42.157	42.157	42.157	42.157	42.157	42.157	42.157	42.157
40.0	31.426	31.426	31.426	31.426	31.426	31.426	31.426	31.426	31.426	31.426
42.5	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375	24.375
45.0	18.856	18.856	18.856	18.856	18.856	18.856	18.856	18.856	18.856	18.856
47.5	13.950	13.950	13.950	13.950	13.950	13.950	13.950	13.950	13.950	13.950
50.0	10.067	10.067	10.067	10.067	10.067	10.067	10.067	10.067	10.067	10.067
52.5	6.745	6.745	6.745	6.745	6.745	6.745	6.745	6.745	6.745	6.745
55.0	4.599	4.599	4.599	4.599	4.599	4.599	4.599	4.599	4.599	4.599
57.5	3.066	3.066	3.066	3.066	3.066	3.066	3.066	3.066	3.066	3.066
60.0	2.146	2.146	2.146	2.146	2.146	2.146	2.146	2.146	2.146	2.146
62.5	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584
65.0	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124	1.124
67.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
70.0	0.613	0.613	0.613	0.613	0.613	0.613	0.613	0.613	0.613	0.613
72.5	0.460	0.460	0.460	0.460	0.460	0.460	0.460	0.460	0.460	0.460
75.0	0.307	0.307	0.307	0.307	0.307	0.307	0.307	0.307	0.307	0.307
77.5	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
80.0	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153	0.153
82.5	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102
85.0	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
87.5	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
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	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955	2761.955
2.5	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845	2756.845
5.0	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943	2714.943
7.5	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814	2592.814
10.0	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881	2386.881
12.5	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447	2134.447
15.0	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590	1885.590
17.5	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508	1649.508
20.0	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448	1414.448
22.5	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860	1154.860
25.0	855.925	855.925	855.925	855.925	855.925	855.925	855.925
27.5	541.149	541.149	541.149	541.149	541.149	541.149	541.149
30.0	284.934	284.934	284.934	284.934	284.934	284.934	284.934
32.5	129.027	129.027	129.027	129.027	129.027	129.027	129.027
35.0	63.160	63.160	63.160	63.160	63.160	63.160	63.160
37.5	42.157	42.157	42.157	42.157	42.157	42.157	42.157
40.0	31.426	31.426	31.426	31.426	31.426	31.426	31.426
42.5	24.375	24.375	24.375	24.375	24.375	24.375	24.375
45.0	18.856	18.856	18.856	18.856	18.856	18.856	18.856
47.5	13.950	13.950	13.950	13.950	13.950	13.950	13.950
50.0	10.067	10.067	10.067	10.067	10.067	10.067	10.067
52.5	6.745	6.745	6.745	6.745	6.745	6.745	6.745
55.0	4.599	4.599	4.599	4.599	4.599	4.599	4.599
57.5	3.066	3.066	3.066	3.066	3.066	3.066	3.066
60.0	2.146	2.146	2.146	2.146	2.146	2.146	2.146
62.5	1.584	1.584	1.584	1.584	1.584	1.584	1.584
65.0	1.124	1.124	1.124	1.124	1.124	1.124	1.124
67.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818
70.0	0.613	0.613	0.613	0.613	0.613	0.613	0.613
72.5	0.460	0.460	0.460	0.460	0.460	0.460	0.460
75.0	0.307	0.307	0.307	0.307	0.307	0.307	0.307
77.5	0.204	0.204	0.204	0.204	0.204	0.204	0.204
80.0	0.153	0.153	0.153	0.153	0.153	0.153	0.153

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

82.5	0.102	0.102	0.102	0.102	0.102	0.102	0.102
85.0	0.051	0.051	0.051	0.051	0.051	0.051	0.051
87.5	0.051	0.051	0.051	0.051	0.051	0.051	0.051
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-OM-CSD-WM_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	771.04	N.A.	34.00
0-30	1148.84	N.A.	50.70
0-40	1207.76	N.A.	53.30
0-60	1227.16	N.A.	54.10
0-80	1228.72	N.A.	54.20
0-90	1229.11	N.A.	54.20
10-90	980.52	N.A.	43.30
20-40	436.72	N.A.	19.30
20-50	451.58	N.A.	19.90
40-70	20.61	N.A.	0.90
60-80	1.56	N.A.	0.10
70-80	0.36	N.A.	0.00
80-90	0.39	N.A.	0.00
90-110	9.77	N.A.	0.40
90-120	23.15	N.A.	1.00
90-130	51.62	N.A.	2.30
90-150	353.37	N.A.	15.60
90-180	1037.43	N.A.	45.80
110-180	1027.66	N.A.	45.30
0-180	2266.54	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	248.59
10-20	522.45
20-30	377.80
30-40	58.92
40-50	14.86
50-60	4.54
60-70	1.21
70-80	0.36
80-90	0.39
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 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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	102	99	96	93	95	92	90	88	80	78	77	68	67	66	58	57	57	52
2	96	90	86	82	89	85	81	78	74	72	69	64	63	61	55	54	53	49
3	90	83	78	74	84	79	74	70	69	66	64	61	59	57	53	52	51	47
4	85	77	72	67	80	73	68	64	65	62	59	58	55	53	51	49	48	45
5	81	72	66	62	76	68	63	59	61	58	55	55	52	50	49	47	46	43
6	76	67	61	57	72	64	59	55	58	54	51	52	49	47	47	45	44	41
7	72	63	57	53	68	60	55	51	55	51	48	50	47	45	45	43	42	39
8	69	60	54	50	65	57	52	48	52	48	45	48	45	43	43	41	40	38
9	66	56	51	47	62	54	49	45	50	46	43	46	43	40	42	40	38	36
10	63	53	48	44	59	51	46	43	47	43	41	44	41	39	40	38	37	35

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OW-CSU-OM-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	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	3H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	4H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	6H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	8H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	12H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9

UGR Viewed Endwise

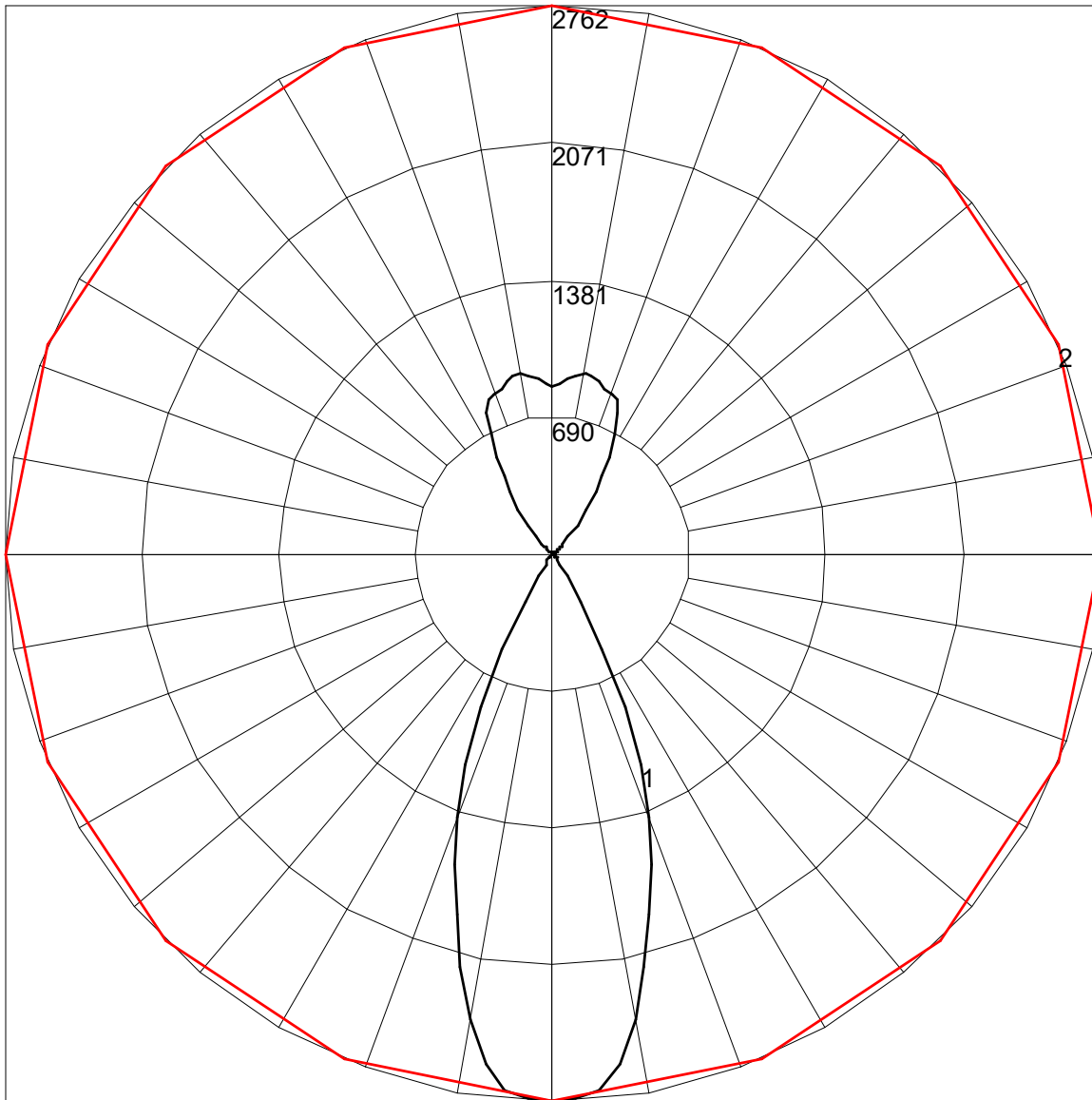
4H	2H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	3H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	4H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	6H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	8H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	12H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
8H	4H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	6H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	8H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	12H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
12H	4H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	6H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	8H	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9

Maximum UGR = 2.9

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 2761.955 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.)