



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-RN-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.10 and #13257153.09

[TESTLAB]

[ISSUE DATE] 10-FEB-2021

[MANUFAC] H E Williams Inc

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

[MORE]

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

[MORE] narrow 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	2666
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 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	3793	3793	3793
55	1909	1909	1909
65	928	928	928
75	275	275	275
85	57	57	57

**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-RN-WHD-WM\_IES**

**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>
<b>0.0</b>	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111
<b>2.5</b>	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834
<b>5.0</b>	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739
<b>7.5</b>	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140
<b>10.0</b>	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683
<b>12.5</b>	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593
<b>15.0</b>	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324
<b>17.5</b>	882.051	882.051	882.051	882.051	882.051	882.051	882.051	882.051	882.051	882.051
<b>20.0</b>	672.392	672.392	672.392	672.392	672.392	672.392	672.392	672.392	672.392	672.392
<b>22.5</b>	550.051	550.051	550.051	550.051	550.051	550.051	550.051	550.051	550.051	550.051
<b>25.0</b>	464.832	464.832	464.832	464.832	464.832	464.832	464.832	464.832	464.832	464.832
<b>27.5</b>	390.991	390.991	390.991	390.991	390.991	390.991	390.991	390.991	390.991	390.991
<b>30.0</b>	321.509	321.509	321.509	321.509	321.509	321.509	321.509	321.509	321.509	321.509
<b>32.5</b>	262.275	262.275	262.275	262.275	262.275	262.275	262.275	262.275	262.275	262.275
<b>35.0</b>	224.104	224.104	224.104	224.104	224.104	224.104	224.104	224.104	224.104	224.104
<b>37.5</b>	197.876	197.876	197.876	197.876	197.876	197.876	197.876	197.876	197.876	197.876
<b>40.0</b>	174.877	174.877	174.877	174.877	174.877	174.877	174.877	174.877	174.877	174.877
<b>42.5</b>	152.362	152.362	152.362	152.362	152.362	152.362	152.362	152.362	152.362	152.362
<b>45.0</b>	131.460	131.460	131.460	131.460	131.460	131.460	131.460	131.460	131.460	131.460
<b>47.5</b>	112.899	112.899	112.899	112.899	112.899	112.899	112.899	112.899	112.899	112.899
<b>50.0</b>	97.082	97.082	97.082	97.082	97.082	97.082	97.082	97.082	97.082	97.082
<b>52.5</b>	84.089	84.089	84.089	84.089	84.089	84.089	84.089	84.089	84.089	84.089
<b>55.0</b>	73.276	73.276	73.276	73.276	73.276	73.276	73.276	73.276	73.276	73.276
<b>57.5</b>	63.511	63.511	63.511	63.511	63.511	63.511	63.511	63.511	63.511	63.511
<b>60.0</b>	54.553	54.553	54.553	54.553	54.553	54.553	54.553	54.553	54.553	54.553
<b>62.5</b>	46.080	46.080	46.080	46.080	46.080	46.080	46.080	46.080	46.080	46.080
<b>65.0</b>	38.010	38.010	38.010	38.010	38.010	38.010	38.010	38.010	38.010	38.010
<b>67.5</b>	30.585	30.585	30.585	30.585	30.585	30.585	30.585	30.585	30.585	30.585
<b>70.0</b>	23.726	23.726	23.726	23.726	23.726	23.726	23.726	23.726	23.726	23.726
<b>72.5</b>	17.431	17.431	17.431	17.431	17.431	17.431	17.431	17.431	17.431	17.431
<b>75.0</b>	11.621	11.621	11.621	11.621	11.621	11.621	11.621	11.621	11.621	11.621
<b>77.5</b>	7.424	7.424	7.424	7.424	7.424	7.424	7.424	7.424	7.424	7.424
<b>80.0</b>	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649	5.649
<b>82.5</b>	3.954	3.954	3.954	3.954	3.954	3.954	3.954	3.954	3.954	3.954
<b>85.0</b>	2.421	2.421	2.421	2.421	2.421	2.421	2.421	2.421	2.421	2.421
<b>87.5</b>	1.049	1.049	1.049	1.049	1.049	1.049	1.049	1.049	1.049	1.049
<b>90.0</b>	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395
<b>92.5</b>	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824	2.824
<b>95.0</b>	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789	4.789
<b>97.5</b>	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798	7.798
<b>100.0</b>	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850	11.850
<b>102.5</b>	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332	16.332
<b>105.0</b>	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244	21.244
<b>107.5</b>	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525	26.525
<b>110.0</b>	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296	32.296
<b>112.5</b>	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498	38.498
<b>115.0</b>	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129	45.129
<b>117.5</b>	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129	52.129
<b>120.0</b>	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128	59.128
<b>122.5</b>	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882	65.882
<b>125.0</b>	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145	72.145
<b>127.5</b>	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285	78.285
<b>130.0</b>	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978	84.978
<b>132.5</b>	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	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111	4578.111
2.5	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834	4407.834
5.0	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739	3935.739
7.5	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140	3244.140
10.0	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683	2476.683
12.5	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593	1774.593
15.0	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324	1236.324
17.5	882.051	882.051	882.051	882.051	882.051	882.051	882.051
20.0	672.392	672.392	672.392	672.392	672.392	672.392	672.392
22.5	550.051	550.051	550.051	550.051	550.051	550.051	550.051
25.0	464.832	464.832	464.832	464.832	464.832	464.832	464.832
27.5	390.991	390.991	390.991	390.991	390.991	390.991	390.991
30.0	321.509	321.509	321.509	321.509	321.509	321.509	321.509
32.5	262.275	262.275	262.275	262.275	262.275	262.275	262.275
35.0	224.104	224.104	224.104	224.104	224.104	224.104	224.104
37.5	197.876	197.876	197.876	197.876	197.876	197.876	197.876
40.0	174.877	174.877	174.877	174.877	174.877	174.877	174.877
42.5	152.362	152.362	152.362	152.362	152.362	152.362	152.362
45.0	131.460	131.460	131.460	131.460	131.460	131.460	131.460
47.5	112.899	112.899	112.899	112.899	112.899	112.899	112.899
50.0	97.082	97.082	97.082	97.082	97.082	97.082	97.082
52.5	84.089	84.089	84.089	84.089	84.089	84.089	84.089
55.0	73.276	73.276	73.276	73.276	73.276	73.276	73.276
57.5	63.511	63.511	63.511	63.511	63.511	63.511	63.511
60.0	54.553	54.553	54.553	54.553	54.553	54.553	54.553
62.5	46.080	46.080	46.080	46.080	46.080	46.080	46.080
65.0	38.010	38.010	38.010	38.010	38.010	38.010	38.010
67.5	30.585	30.585	30.585	30.585	30.585	30.585	30.585
70.0	23.726	23.726	23.726	23.726	23.726	23.726	23.726
72.5	17.431	17.431	17.431	17.431	17.431	17.431	17.431
75.0	11.621	11.621	11.621	11.621	11.621	11.621	11.621
77.5	7.424	7.424	7.424	7.424	7.424	7.424	7.424
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-RN-WHD-WM\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	689.60	N.A.	25.90
0-30	905.21	N.A.	34.00
0-40	1049.94	N.A.	39.40
0-60	1218.43	N.A.	45.70
0-80	1269.87	N.A.	47.60
0-90	1272.98	N.A.	47.70
10-90	944.89	N.A.	35.40
20-40	360.34	N.A.	13.50
20-50	462.65	N.A.	17.40
40-70	206.47	N.A.	7.70
60-80	51.43	N.A.	1.90
70-80	13.46	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.	2.80
90-130	138.17	N.A.	5.20
90-150	365.06	N.A.	13.70
90-180	1393.12	N.A.	52.30
110-180	1364.28	N.A.	51.20
0-180	2666.1	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	328.09
10-20	361.51
20-30	215.61
30-40	144.73
40-50	102.31
50-60	66.19
60-70	37.97
70-80	13.46
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

# IES INDOOR REPORT

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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48
1	99	96	93	90	92	89	86	84	75	73	72	63	61	60	51	50	50	44
2	93	87	82	78	85	81	76	73	69	66	63	58	56	54	48	47	46	41
3	86	79	73	68	80	74	69	64	63	60	57	54	52	50	45	44	43	39
4	81	72	66	61	75	68	62	58	59	55	52	51	48	46	43	41	40	36
5	76	66	60	55	70	62	57	52	55	50	47	47	44	42	41	39	37	34
6	71	62	55	50	66	58	52	48	51	47	44	45	42	39	39	37	35	32
7	67	57	51	46	63	54	48	44	48	44	41	42	39	37	37	35	33	31
8	64	54	47	43	59	51	45	41	45	41	38	40	37	35	35	33	32	30
9	60	50	44	40	57	48	42	39	43	39	36	38	35	33	34	32	30	28
10	57	47	41	37	54	45	40	36	41	37	34	37	34	31	33	31	29	27

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-RN-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	5.0	5.7	6.0	6.7	8.0	5.0	5.7	6.0	6.7	8.0
	3H	5.6	6.2	6.6	7.2	8.6	5.6	6.2	6.6	7.2	8.6
	4H	5.7	6.2	6.7	7.2	8.6	5.7	6.2	6.7	7.2	8.6
	6H	5.6	6.1	6.6	7.1	8.5	5.6	6.1	6.6	7.1	8.5
	8H	5.6	6.1	6.6	7.1	8.4	5.6	6.1	6.6	7.1	8.4
	12H	5.5	6.0	6.5	7.0	8.4	5.5	6.0	6.5	7.0	8.4

### UGR Viewed Endwise

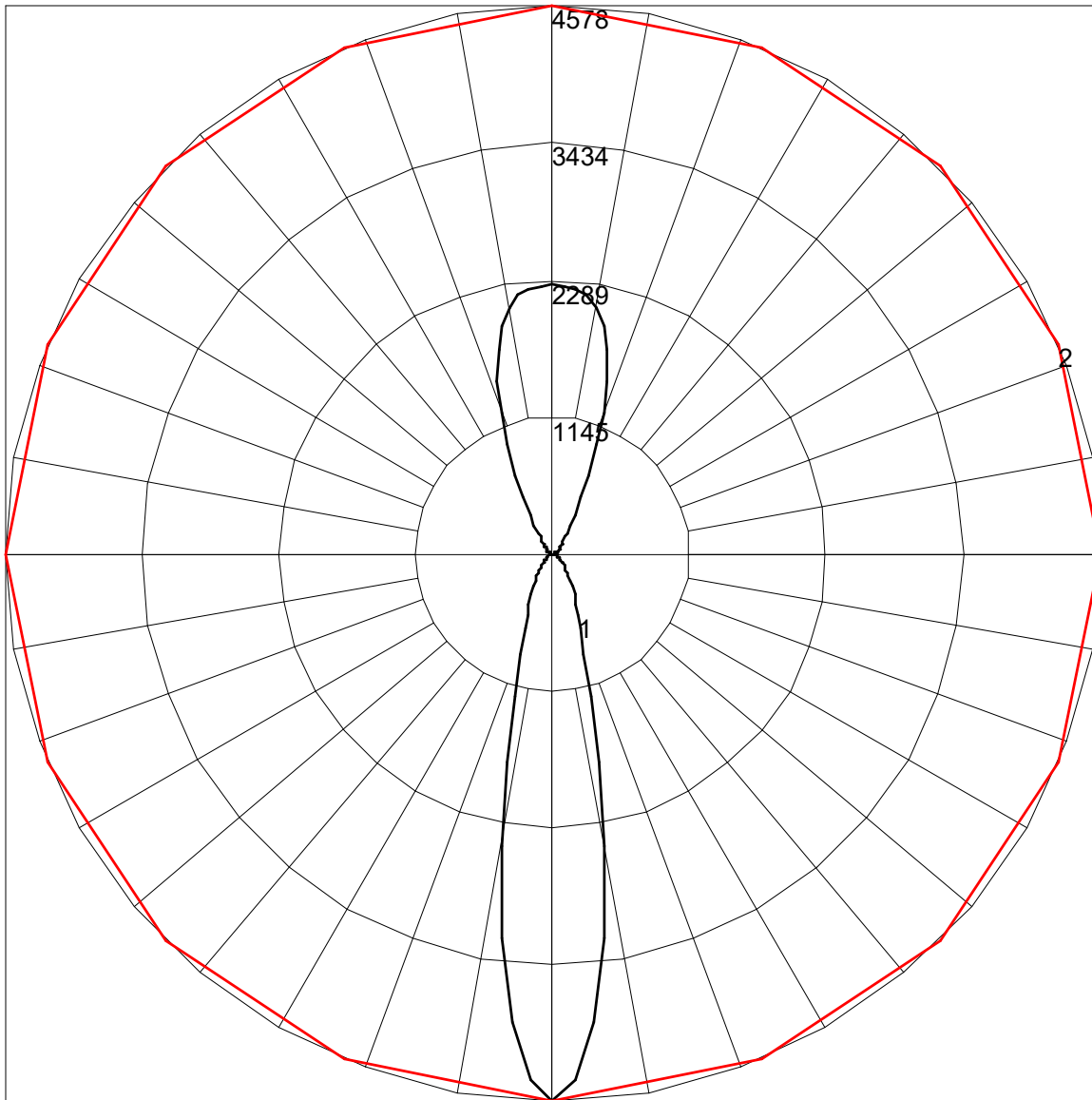
4H	2H	5.1	5.7	6.2	6.7	8.1	5.1	5.7	6.2	6.7	8.1
	3H	5.8	6.3	6.8	7.3	8.7	5.8	6.3	6.8	7.3	8.7
	4H	5.9	6.3	6.9	7.3	8.7	5.9	6.3	6.9	7.3	8.7
	6H	5.8	6.2	6.9	7.3	8.6	5.8	6.2	6.9	7.3	8.6
	8H	5.8	6.1	6.8	7.2	8.6	5.8	6.1	6.8	7.2	8.6
	12H	5.7	6.0	6.8	7.1	8.5	5.7	6.0	6.8	7.1	8.5
8H	4H	5.8	6.1	6.8	7.2	8.6	5.8	6.1	6.8	7.2	8.6
	6H	5.7	6.0	6.8	7.1	8.5	5.7	6.0	6.8	7.1	8.5
	8H	5.7	6.0	6.8	7.0	8.5	5.7	6.0	6.8	7.0	8.5
	12H	5.7	5.9	6.8	7.0	8.4	5.7	5.9	6.8	7.0	8.4
12H	4H	5.7	6.0	6.8	7.1	8.5	5.7	6.0	6.8	7.1	8.5
	6H	5.7	5.9	6.8	7.0	8.4	5.7	5.9	6.8	7.0	8.4
	8H	5.7	5.9	6.8	7.0	8.4	5.7	5.9	6.8	7.0	8.4

Maximum UGR = 8.7

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LW-CSU-RN-WHD-WM\_.IES

## POLAR GRAPH



Maximum Candela = 4578.111 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.)