



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13257153.06 and #13257153.09

[TESTLAB]

[ISSUE DATE] 10-FEB-2021

[MANUFAC] H E Williams Inc

[MORE] H.E. WILLIAMS, INC. - CARTHAGE, MO

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

[MORE]

[LUMINAIRE] White formed aluminum housing, medium 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)

[BALLAST] (2) ERP PHB30W-0700-42 Drivers

[_SEARCH_SOURCE TYPE] LED

[_SEARCH_APPLICATION] INDOOR, DIRECT, INDIRECT

[_SEARCH_MOUNTING] WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2647
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
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	58838	58838	58838
55	40431	40431	40431
65	28464	28464	28464
75	14210	14210	14210
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	4578.111	4578.111	4578.111	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	4407.834	4407.834	4407.834
5.0	3935.739	3935.739	3935.739	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	3244.140	3244.140	3244.140
10.0	2476.683	2476.683	2476.683	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	1774.593	1774.593	1774.593
15.0	1236.324	1236.324	1236.324	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	882.051	882.051	882.051
20.0	672.392	672.392	672.392	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	550.051	550.051	550.051
25.0	464.832	464.832	464.832	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	390.991	390.991	390.991
30.0	321.509	321.509	321.509	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	262.275	262.275	262.275
35.0	224.104	224.104	224.104	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	197.876	197.876	197.876
40.0	174.877	174.877	174.877	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	152.362	152.362	152.362
45.0	131.460	131.460	131.460	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	112.899	112.899	112.899
50.0	97.082	97.082	97.082	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	84.089	84.089	84.089
55.0	73.276	73.276	73.276	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	63.511	63.511	63.511
60.0	54.553	54.553	54.553	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	46.080	46.080	46.080
65.0	38.010	38.010	38.010	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	30.585	30.585	30.585
70.0	23.726	23.726	23.726	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	17.431	17.431	17.431
75.0	11.621	11.621	11.621	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	7.424	7.424	7.424
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	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

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

Zone	Lumens	%Lamp	%Fixt
0-20	689.60	N.A.	26.10
0-30	905.21	N.A.	34.20
0-40	1049.94	N.A.	39.70
0-60	1218.43	N.A.	46.00
0-80	1269.87	N.A.	48.00
0-90	1272.66	N.A.	48.10
10-90	944.57	N.A.	35.70
20-40	360.34	N.A.	13.60
20-50	462.65	N.A.	17.50
40-70	206.47	N.A.	7.80
60-80	51.43	N.A.	1.90
70-80	13.46	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.	3.60
90-130	179.43	N.A.	6.80
90-150	435.30	N.A.	16.40
90-180	1374.39	N.A.	51.90
110-180	1337.81	N.A.	50.50
0-180	2647.04	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	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	82	82	82	68	68	68	54	54	54	48
1	99	96	93	90	92	89	86	84	75	74	72	63	62	61	51	51	50	45
2	93	87	82	78	86	81	77	73	69	66	64	58	56	55	48	47	46	42
3	87	79	73	69	80	74	69	65	64	60	57	54	52	50	46	44	43	39
4	81	72	66	61	75	68	62	58	59	55	52	51	48	46	43	41	40	37
5	76	67	60	55	71	63	57	53	55	51	47	48	45	42	41	39	37	34
6	71	62	55	50	66	58	52	48	51	47	44	45	42	40	39	37	35	33
7	67	57	51	46	63	54	49	44	48	44	41	43	39	37	37	35	33	31
8	64	54	47	43	60	51	45	41	45	41	38	40	37	35	36	33	32	30
9	60	50	44	40	57	48	42	39	43	39	36	39	35	33	34	32	30	29
10	58	48	42	38	54	45	40	36	41	37	34	37	34	32	33	31	29	27

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LM-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	15.9	16.6	16.9	17.6	18.9	15.9	16.6	16.9	17.6	18.9
	3H	16.8	17.4	17.8	18.4	19.8	16.8	17.4	17.8	18.4	19.8
	4H	17.0	17.5	18.0	18.5	19.9	17.0	17.5	18.0	18.5	19.9
	6H	17.0	17.5	18.0	18.5	19.9	17.0	17.5	18.0	18.5	19.9
	8H	16.9	17.5	18.0	18.5	19.8	16.9	17.5	18.0	18.5	19.8
	12H	16.9	17.4	18.0	18.4	19.8	16.9	17.4	18.0	18.4	19.8

UGR Viewed Endwise

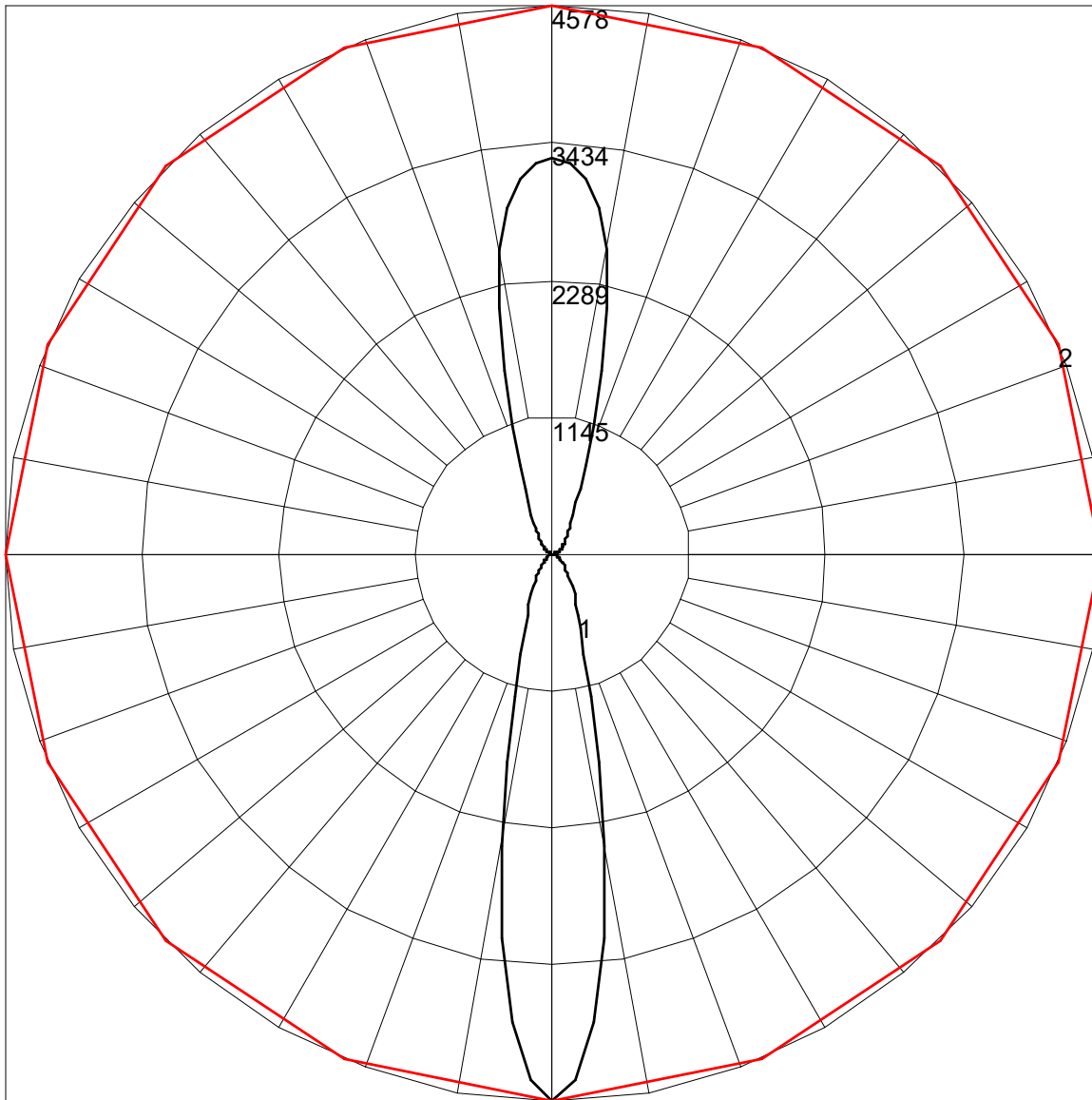
4H	2H	16.2	16.8	17.2	17.8	19.1	16.2	16.8	17.2	17.8	19.1
	3H	17.2	17.7	18.3	18.7	20.1	17.2	17.7	18.3	18.7	20.1
	4H	17.4	17.8	18.5	18.9	20.3	17.4	17.8	18.5	18.9	20.3
	6H	17.5	17.8	18.5	18.9	20.3	17.5	17.8	18.5	18.9	20.3
	8H	17.5	17.8	18.5	18.9	20.2	17.5	17.8	18.5	18.9	20.2
	12H	17.4	17.8	18.5	18.8	20.2	17.4	17.8	18.5	18.8	20.2
8H	4H	17.4	17.7	18.4	18.8	20.2	17.4	17.7	18.4	18.8	20.2
	6H	17.5	17.8	18.6	18.9	20.2	17.5	17.8	18.6	18.9	20.2
	8H	17.5	17.8	18.6	18.8	20.2	17.5	17.8	18.6	18.8	20.2
	12H	17.5	17.8	18.6	18.8	20.3	17.5	17.8	18.6	18.8	20.3
12H	4H	17.3	17.6	18.4	18.7	20.1	17.3	17.6	18.4	18.7	20.1
	6H	17.4	17.7	18.5	18.8	20.2	17.4	17.7	18.5	18.8	20.2
	8H	17.5	17.7	18.6	18.8	20.2	17.5	17.7	18.6	18.8	20.2

Maximum UGR = 20.3

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-LM-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.)