



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13255206.01 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-OS-CSU-LW-WHD-WM

[MORE]

[LUMINAIRE] White formed aluminum housing, narrow spot 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	2238
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	65
Total Luminaire Watts	34.5
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	54756	54756	54756
55	47823	47823	47823
65	40852	40852	40852
75	32959	32959	32959
85	18461	18461	18461

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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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
112.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
115.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
117.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818	0.818
120.0	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636
122.5	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636	1.636
125.0	2.454	2.454	2.454	2.454	2.454	2.454	2.454	2.454	2.454	2.454
127.5	3.272	3.272	3.272	3.272	3.272	3.272	3.272	3.272	3.272	3.272
130.0	4.090	4.090	4.090	4.090	4.090	4.090	4.090	4.090	4.090	4.090
132.5	5.726	5.726	5.726	5.726	5.726	5.726	5.726	5.726	5.726	5.726

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CANDELA TABULATION - (Cont.)

135.0	8.180	8.180	8.180	8.180	8.180	8.180	8.180	8.180	8.180	8.180
137.5	9.816	9.816	9.816	9.816	9.816	9.816	9.816	9.816	9.816	9.816
140.0	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270	12.270
142.5	15.542	15.542	15.542	15.542	15.542	15.542	15.542	15.542	15.542	15.542
145.0	18.814	18.814	18.814	18.814	18.814	18.814	18.814	18.814	18.814	18.814
147.5	25.358	25.358	25.358	25.358	25.358	25.358	25.358	25.358	25.358	25.358
150.0	73.620	73.620	73.620	73.620	73.620	73.620	73.620	73.620	73.620	73.620
152.5	292.844	292.844	292.844	292.844	292.844	292.844	292.844	292.844	292.844	292.844
155.0	505.524	505.524	505.524	505.524	505.524	505.524	505.524	505.524	505.524	505.524
157.5	561.148	561.148	561.148	561.148	561.148	561.148	561.148	561.148	561.148	561.148
160.0	593.868	593.868	593.868	593.868	593.868	593.868	593.868	593.868	593.868	593.868
162.5	652.764	652.764	652.764	652.764	652.764	652.764	652.764	652.764	652.764	652.764
165.0	765.648	765.648	765.648	765.648	765.648	765.648	765.648	765.648	765.648	765.648
167.5	971.784	971.784	971.784	971.784	971.784	971.784	971.784	971.784	971.784	971.784
170.0	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694
172.5	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645
175.0	5814.360	5814.360	5814.360	5814.360	5814.360	5814.359	5814.359	5814.359	5814.359	5814.359
177.5	13308.877	13308.877	13308.877	13308.877	13308.876	13308.876	13308.876	13308.875	13308.875	13308.875
180.0	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000	17079.000

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	0.000	0.000	0.000	0.000	0.000	0.000	0.000
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818
112.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818
115.0	0.818	0.818	0.818	0.818	0.818	0.818	0.818
117.5	0.818	0.818	0.818	0.818	0.818	0.818	0.818
120.0	1.636	1.636	1.636	1.636	1.636	1.636	1.636
122.5	1.636	1.636	1.636	1.636	1.636	1.636	1.636
125.0	2.454	2.454	2.454	2.454	2.454	2.454	2.454
127.5	3.272	3.272	3.272	3.272	3.272	3.272	3.272
130.0	4.090	4.090	4.090	4.090	4.090	4.090	4.090
132.5	5.726	5.726	5.726	5.726	5.726	5.726	5.726
135.0	8.180	8.180	8.180	8.180	8.180	8.180	8.180
137.5	9.816	9.816	9.816	9.816	9.816	9.816	9.816
140.0	12.270	12.270	12.270	12.270	12.270	12.270	12.270
142.5	15.542	15.542	15.542	15.542	15.542	15.542	15.542
145.0	18.814	18.814	18.814	18.814	18.814	18.814	18.814
147.5	25.358	25.358	25.358	25.358	25.358	25.358	25.358
150.0	73.620	73.620	73.620	73.620	73.620	73.620	73.620
152.5	292.844	292.844	292.844	292.844	292.844	292.844	292.844
155.0	505.524	505.524	505.524	505.524	505.524	505.524	505.524
157.5	561.148	561.148	561.148	561.148	561.148	561.148	561.148
160.0	593.868	593.868	593.868	593.868	593.868	593.868	593.868
162.5	652.764	652.764	652.764	652.764	652.764	652.764	652.764
165.0	765.648	765.648	765.648	765.648	765.648	765.648	765.648
167.5	971.784	971.784	971.784	971.784	971.784	971.784	971.784
170.0	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694	1376.694
172.5	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645	2437.645
175.0	5814.359	5814.359	5814.360	5814.360	5814.360	5814.360	5814.360
177.5	13308.8751	13308.8761	13308.8761	13308.8761	13308.8771	13308.8771	13308.877
180.0	17079.0001	17079.0001	17079.0001	17079.0001	17079.0001	17079.0001	17079.000

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

Zone	Lumens	%Lamp	%Fixt
0-20	529.26	N.A.	23.70
0-30	903.06	N.A.	40.40
0-40	1067.08	N.A.	47.70
0-60	1240.71	N.A.	55.40
0-80	1323.77	N.A.	59.20
0-90	1330.25	N.A.	59.40
10-90	1184.41	N.A.	52.90
20-40	537.82	N.A.	24.00
20-50	633.90	N.A.	28.30
40-70	227.92	N.A.	10.20
60-80	83.06	N.A.	3.70
70-80	28.76	N.A.	1.30
80-90	6.48	N.A.	0.30
90-110	0.11	N.A.	0.00
90-120	1.02	N.A.	0.00
90-130	3.29	N.A.	0.10
90-150	24.95	N.A.	1.10
90-180	907.47	N.A.	40.60
110-180	907.36	N.A.	40.50
0-180	2237.72	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	6.48
90-100	0.00
100-110	0.11
110-120	0.91
120-130	2.27
130-140	6.09
140-150	15.57
150-160	188.82
160-170	228.73
170-180	464.97

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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	102	102	102	102	89	89	89	76	76	76	65	65	65	59
1	102	98	95	92	95	92	90	87	81	79	77	70	69	68	60	60	59	54
2	95	89	84	80	89	84	79	76	74	71	68	65	62	60	56	55	53	49
3	88	81	75	70	83	76	71	67	68	64	61	60	57	55	53	51	49	45
4	83	74	67	62	78	70	64	60	62	58	55	56	52	50	49	47	45	42
5	77	68	61	56	73	64	58	54	58	53	50	52	48	46	46	44	42	39
6	73	62	56	51	68	59	53	49	54	49	45	49	45	42	44	41	39	36
7	68	58	51	46	64	55	49	45	50	45	42	46	42	39	41	38	36	34
8	64	54	47	43	61	52	46	41	47	42	39	43	39	36	39	36	34	32
9	61	50	44	40	58	48	42	38	44	40	36	41	37	34	37	34	32	30
10	58	47	41	37	55	45	40	36	42	37	34	38	35	32	35	32	30	28

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CRDI-L12-835U-L12-835D-XXX-DIM1-UNV-OS-CSU-LW-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	18.3	19.1	19.2	20.0	21.1
	3H	19.8	20.5	20.7	21.4	22.6
	4H	20.3	20.9	21.2	21.9	23.0
	6H	20.6	21.2	21.6	22.1	23.3
	8H	20.7	21.3	21.7	22.2	23.4
	12H	20.7	21.3	21.7	22.2	23.4

UGR Viewed Endwise

18.3	19.1	19.2	20.0	21.1
19.8	20.5	20.7	21.4	22.6
20.3	20.9	21.2	21.9	23.0
20.6	21.2	21.6	22.1	23.3
20.7	21.3	21.7	22.2	23.4
20.7	21.3	21.7	22.2	23.4

4H	2H	18.8	19.4	19.7	20.3	21.5	18.8	19.4	19.7	20.3	21.5
	3H	20.4	21.0	21.4	21.9	23.1	20.4	21.0	21.4	21.9	23.1
	4H	21.1	21.5	22.0	22.5	23.7	21.1	21.5	22.0	22.5	23.7
	6H	21.5	21.9	22.5	22.9	24.1	21.5	21.9	22.5	22.9	24.1
	8H	21.6	22.0	22.6	23.0	24.2	21.6	22.0	22.6	23.0	24.2
	12H	21.7	22.0	22.6	23.0	24.2	21.7	22.0	22.6	23.0	24.2

8H	4H	21.2	21.6	22.2	22.6	23.8	21.2	21.6	22.2	22.6	23.8
	6H	21.8	22.1	22.8	23.1	24.3	21.8	22.1	22.8	23.1	24.3
	8H	22.0	22.2	23.0	23.2	24.5	22.0	22.2	23.0	23.2	24.5
	12H	22.1	22.3	23.1	23.3	24.6	22.1	22.3	23.1	23.3	24.6

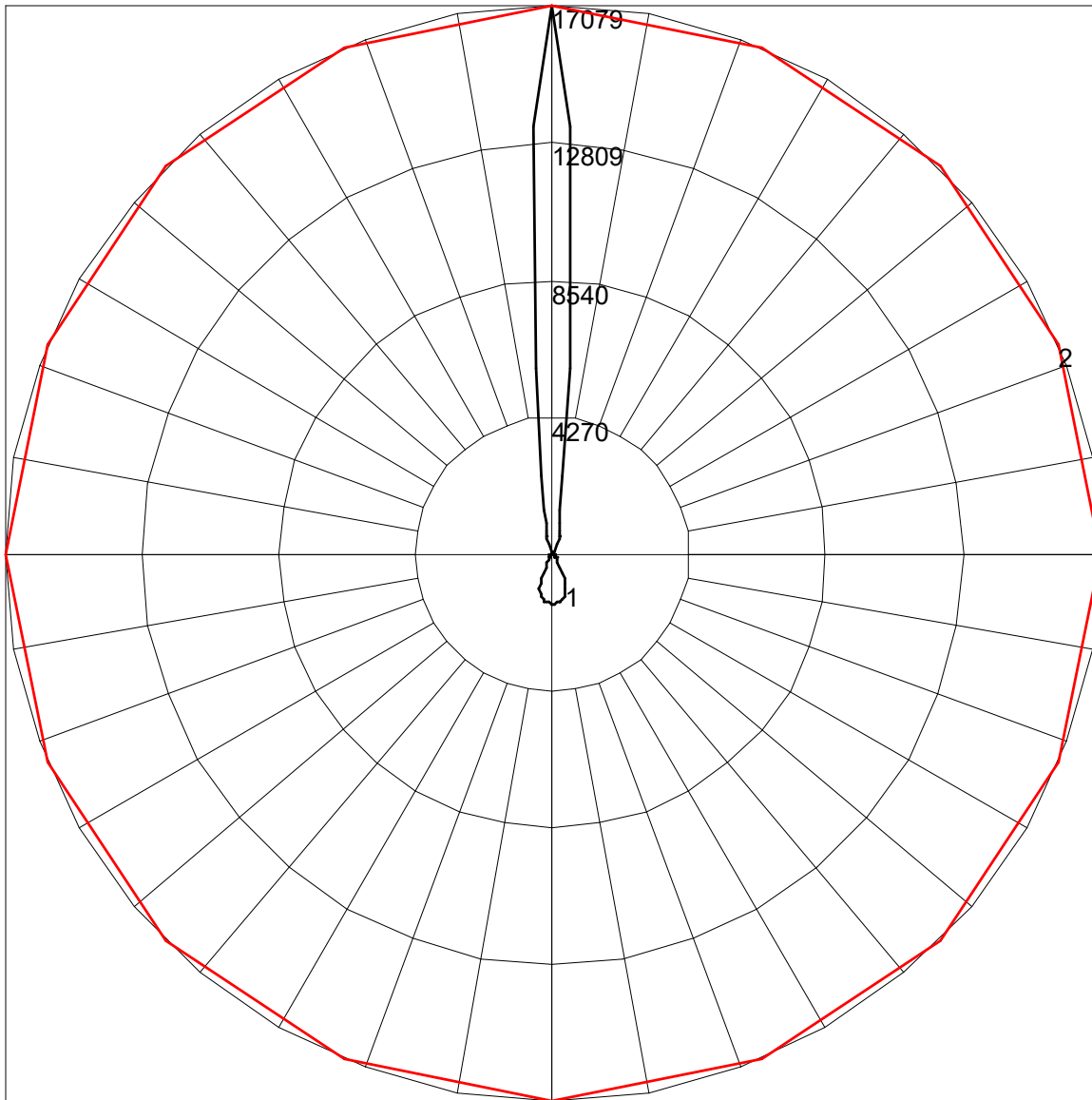
12H	4H	21.2	21.6	22.2	22.5	23.8	21.2	21.6	22.2	22.5	23.8
	6H	21.8	22.1	22.8	23.1	24.3	21.8	22.1	22.8	23.1	24.3
	8H	22.0	22.3	23.0	23.2	24.5	22.0	22.3	23.0	23.2	24.5

Maximum UGR = 24.6

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 17079 Located At Horizontal Angle = 0, Vertical Angle = 180

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)