



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LN-WHD-WM_IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] MADE FROM 12316380.04 and 12316380.10

[TESTLAB]

[ISSUEDATE] 02/09/2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 6CRDI-TL-L20-835U-L20-835D-xxx-DIM1-UNV-OM-CSU-LN-WHD-WM

[LUMINAIRE] White formed aluminum housing, medium distrib anodized aluminum reflector trim w/clear cover glass up,
[MORE] narrow distrib white painted flush prismatic lens trim down

[LAMP] Two white LEDs (one up/one down)

[BALLAST] (2) Osram Optotronic OTi25W/120-277/2A0 DIM-1 Drivers

[_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	3550
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	39.5854
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)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	10727	10727	10727
55	8046	8046	8046
65	6658	6658	6658
75	5417	5417	5417
85	3016	3016	3016

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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	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000
2.5	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000
5.0	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000
7.5	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000
10.0	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000
12.5	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000
15.0	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000
17.5	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000
20.0	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000
22.5	915.200	915.200	915.200	915.200	915.200	915.200	915.200	915.200	915.200	915.200
25.0	624.800	624.800	624.800	624.800	624.800	624.800	624.800	624.800	624.800	624.800
27.5	428.500	428.500	428.500	428.500	428.500	428.500	428.500	428.500	428.500	428.500
30.0	300.500	300.500	300.500	300.500	300.500	300.500	300.500	300.500	300.500	300.500
32.5	217.700	217.700	217.700	217.700	217.700	217.700	217.700	217.700	217.700	217.700
35.0	164.000	164.000	164.000	164.000	164.000	164.000	164.000	164.000	164.000	164.000
37.5	129.200	129.200	129.200	129.200	129.200	129.200	129.200	129.200	129.200	129.200
40.0	106.100	106.100	106.100	106.100	106.100	106.100	106.100	106.100	106.100	106.100
42.5	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000
45.0	77.900	77.900	77.900	77.900	77.900	77.900	77.900	77.900	77.900	77.900
47.5	68.400	68.400	68.400	68.400	68.400	68.400	68.400	68.400	68.400	68.400
50.0	60.300	60.300	60.300	60.300	60.300	60.300	60.300	60.300	60.300	60.300
52.5	53.400	53.400	53.400	53.400	53.400	53.400	53.400	53.400	53.400	53.400
55.0	47.400	47.400	47.400	47.400	47.400	47.400	47.400	47.400	47.400	47.400
57.5	42.100	42.100	42.100	42.100	42.100	42.100	42.100	42.100	42.100	42.100
60.0	37.400	37.400	37.400	37.400	37.400	37.400	37.400	37.400	37.400	37.400
62.5	33.000	33.000	33.000	33.000	33.000	33.000	33.000	33.000	33.000	33.000
65.0	28.900	28.900	28.900	28.900	28.900	28.900	28.900	28.900	28.900	28.900
67.5	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000
70.0	21.300	21.300	21.300	21.300	21.300	21.300	21.300	21.300	21.300	21.300
72.5	17.800	17.800	17.800	17.800	17.800	17.800	17.800	17.800	17.800	17.800
75.0	14.400	14.400	14.400	14.400	14.400	14.400	14.400	14.400	14.400	14.400
77.5	11.100	11.100	11.100	11.100	11.100	11.100	11.100	11.100	11.100	11.100
80.0	8.100	8.100	8.100	8.100	8.100	8.100	8.100	8.100	8.100	8.100
82.5	5.300	5.300	5.300	5.300	5.300	5.300	5.300	5.300	5.300	5.300
85.0	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
87.5	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
90.0	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
92.5	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
95.0	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
97.5	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170
100.0	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170
102.5	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339
105.0	0.509	0.509	0.509	0.509	0.509	0.509	0.509	0.509	0.509	0.509
107.5	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678	0.678
110.0	0.933	0.933	0.933	0.933	0.933	0.933	0.933	0.933	0.933	0.933
112.5	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357
115.0	1.866	1.866	1.866	1.866	1.866	1.866	1.866	1.866	1.866	1.866
117.5	2.544	2.544	2.544	2.544	2.544	2.544	2.544	2.544	2.544	2.544
120.0	3.562	3.562	3.562	3.562	3.562	3.562	3.562	3.562	3.562	3.562
122.5	5.003	5.003	5.003	5.003	5.003	5.003	5.003	5.003	5.003	5.003
125.0	7.208	7.208	7.208	7.208	7.208	7.208	7.208	7.208	7.208	7.208
127.5	10.600	10.600	10.600	10.600	10.600	10.600	10.600	10.600	10.600	10.600
130.0	15.858	15.858	15.858	15.858	15.858	15.858	15.858	15.858	15.858	15.858
132.5	22.726	22.726	22.726	22.726	22.726	22.726	22.726	22.726	22.726	22.726

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CANDELA TABULATION - (Cont.)

135.0	30.613	30.613	30.613	30.613	30.613	30.613	30.613	30.613	30.613	30.613
137.5	39.856	39.856	39.856	39.856	39.856	39.856	39.856	39.856	39.856	39.856
140.0	52.067	52.067	52.067	52.067	52.067	52.067	52.067	52.067	52.067	52.067
142.5	69.621	69.621	69.621	69.621	69.621	69.621	69.621	69.621	69.621	69.621
145.0	133.136	133.136	133.136	133.136	133.136	133.136	133.136	133.136	133.136	133.136
147.5	402.970	402.970	402.970	402.970	402.970	402.970	402.970	402.970	402.970	402.970
150.0	858.176	858.176	858.176	858.176	858.176	858.176	858.176	858.176	858.176	858.176
152.5	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888
155.0	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920
157.5	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800
160.0	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552
162.5	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632
165.0	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576
167.5	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368
170.0	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352
172.5	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704
175.0	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632
177.5	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064
180.0	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000

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	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000	6885.000
2.5	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000	6704.000
5.0	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000	6211.000
7.5	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000	5474.000
10.0	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000	4555.000
12.5	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000	3569.000
15.0	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000	2650.000
17.5	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000	1893.000
20.0	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000	1326.000
22.5	915.200	915.200	915.200	915.200	915.200	915.200	915.200
25.0	624.800	624.800	624.800	624.800	624.800	624.800	624.800
27.5	428.500	428.500	428.500	428.500	428.500	428.500	428.500
30.0	300.500	300.500	300.500	300.500	300.500	300.500	300.500
32.5	217.700	217.700	217.700	217.700	217.700	217.700	217.700
35.0	164.000	164.000	164.000	164.000	164.000	164.000	164.000
37.5	129.200	129.200	129.200	129.200	129.200	129.200	129.200
40.0	106.100	106.100	106.100	106.100	106.100	106.100	106.100
42.5	90.000	90.000	90.000	90.000	90.000	90.000	90.000
45.0	77.900	77.900	77.900	77.900	77.900	77.900	77.900
47.5	68.400	68.400	68.400	68.400	68.400	68.400	68.400
50.0	60.300	60.300	60.300	60.300	60.300	60.300	60.300
52.5	53.400	53.400	53.400	53.400	53.400	53.400	53.400
55.0	47.400	47.400	47.400	47.400	47.400	47.400	47.400
57.5	42.100	42.100	42.100	42.100	42.100	42.100	42.100
60.0	37.400	37.400	37.400	37.400	37.400	37.400	37.400
62.5	33.000	33.000	33.000	33.000	33.000	33.000	33.000
65.0	28.900	28.900	28.900	28.900	28.900	28.900	28.900
67.5	25.000	25.000	25.000	25.000	25.000	25.000	25.000
70.0	21.300	21.300	21.300	21.300	21.300	21.300	21.300
72.5	17.800	17.800	17.800	17.800	17.800	17.800	17.800
75.0	14.400	14.400	14.400	14.400	14.400	14.400	14.400
77.5	11.100	11.100	11.100	11.100	11.100	11.100	11.100
80.0	8.100	8.100	8.100	8.100	8.100	8.100	8.100

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82.5	5.300	5.300	5.300	5.300	5.300	5.300	5.300
85.0	2.700	2.700	2.700	2.700	2.700	2.700	2.700
87.5	1.100	1.100	1.100	1.100	1.100	1.100	1.100
90.0	0.200	0.200	0.200	0.200	0.200	0.200	0.200
92.5	0.085	0.085	0.085	0.085	0.085	0.085	0.085
95.0	0.085	0.085	0.085	0.085	0.085	0.085	0.085
97.5	0.170	0.170	0.170	0.170	0.170	0.170	0.170
100.0	0.170	0.170	0.170	0.170	0.170	0.170	0.170
102.5	0.339	0.339	0.339	0.339	0.339	0.339	0.339
105.0	0.509	0.509	0.509	0.509	0.509	0.509	0.509
107.5	0.678	0.678	0.678	0.678	0.678	0.678	0.678
110.0	0.933	0.933	0.933	0.933	0.933	0.933	0.933
112.5	1.357	1.357	1.357	1.357	1.357	1.357	1.357
115.0	1.866	1.866	1.866	1.866	1.866	1.866	1.866
117.5	2.544	2.544	2.544	2.544	2.544	2.544	2.544
120.0	3.562	3.562	3.562	3.562	3.562	3.562	3.562
122.5	5.003	5.003	5.003	5.003	5.003	5.003	5.003
125.0	7.208	7.208	7.208	7.208	7.208	7.208	7.208
127.5	10.600	10.600	10.600	10.600	10.600	10.600	10.600
130.0	15.858	15.858	15.858	15.858	15.858	15.858	15.858
132.5	22.726	22.726	22.726	22.726	22.726	22.726	22.726
135.0	30.613	30.613	30.613	30.613	30.613	30.613	30.613
137.5	39.856	39.856	39.856	39.856	39.856	39.856	39.856
140.0	52.067	52.067	52.067	52.067	52.067	52.067	52.067
142.5	69.621	69.621	69.621	69.621	69.621	69.621	69.621
145.0	133.136	133.136	133.136	133.136	133.136	133.136	133.136
147.5	402.970	402.970	402.970	402.970	402.970	402.970	402.970
150.0	858.176	858.176	858.176	858.176	858.176	858.176	858.176
152.5	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888	1255.888
155.0	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920	1517.920
157.5	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800	1674.800
160.0	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552	1737.552
162.5	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632	1809.632
165.0	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576	1960.576
167.5	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368	2218.368
170.0	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352	2564.352
172.5	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704	3008.704
175.0	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632	3399.632
177.5	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064	3492.064
180.0	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000	3435.000

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Zone	Lumens	%Lamp	%Fixt
0-20	1275.81	N.A.	35.90
0-30	1584.08	N.A.	44.60
0-40	1693.94	N.A.	47.70
0-60	1798.14	N.A.	50.70
0-80	1842.18	N.A.	51.90
0-90	1845.78	N.A.	52.00
10-90	1305.89	N.A.	36.80
20-40	418.13	N.A.	11.80
20-50	479.52	N.A.	13.50
40-70	132.94	N.A.	3.70
60-80	44.03	N.A.	1.20
70-80	15.29	N.A.	0.40
80-90	3.60	N.A.	0.10
90-110	0.69	N.A.	0.00
90-120	2.66	N.A.	0.10
90-130	9.85	N.A.	0.30
90-150	191.47	N.A.	5.40
90-180	1704.03	N.A.	48.00
110-180	1703.34	N.A.	48.00
0-180	3549.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	539.89
10-20	735.92
20-30	308.27
30-40	109.86
40-50	61.38
50-60	42.81
60-70	28.75
70-80	15.29
80-90	3.60
90-100	0.14
100-110	0.55
110-120	1.97
120-130	7.19
130-140	24.24
140-150	157.37
150-160	653.30
160-170	564.93
170-180	294.32

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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	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58	52
1	101	98	95	92	94	91	88	86	78	76	75	66	65	64	55	55	54	49
2	95	89	85	81	88	83	80	76	73	70	68	62	61	59	53	52	51	47
3	89	82	77	72	83	77	73	69	68	64	62	59	57	55	51	49	48	45
4	84	76	70	66	78	72	67	63	64	60	57	56	53	51	49	47	46	43
5	79	71	65	60	74	67	62	58	60	56	53	53	50	48	47	45	44	41
6	75	66	60	56	71	63	58	54	57	53	50	51	48	46	45	43	42	39
7	72	62	56	52	67	59	54	50	54	50	47	48	46	43	44	42	40	38
8	68	59	53	49	64	56	51	47	51	47	44	46	44	41	42	40	39	37
9	65	56	50	46	62	53	48	45	49	45	42	45	42	40	41	39	37	35
10	62	53	47	44	59	51	46	43	47	43	40	43	40	38	39	37	36	34

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LN-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	8.2	8.9	9.2	9.8	11.1	8.2	8.9	9.2	9.8	11.1
	3H	9.6	10.2	10.6	11.2	12.5	9.6	10.2	10.6	11.2	12.5
	4H	10.2	10.7	11.2	11.7	13.0	10.2	10.7	11.2	11.7	13.0
	6H	10.5	11.0	11.5	12.0	13.3	10.5	11.0	11.5	12.0	13.3
	8H	10.5	11.0	11.6	12.0	13.3	10.5	11.0	11.6	12.0	13.3
	12H	10.6	11.0	11.6	12.0	13.3	10.6	11.0	11.6	12.0	13.3

UGR Viewed Endwise

4H	2H	8.6	9.2	9.6	10.2	11.5	8.6	9.2	9.6	10.2	11.5
	3H	10.3	10.7	11.3	11.7	13.0	10.3	10.7	11.3	11.7	13.0
	4H	10.9	11.3	11.9	12.3	13.6	10.9	11.3	11.9	12.3	13.6
	6H	11.3	11.7	12.4	12.7	14.0	11.3	11.7	12.4	12.7	14.0
	8H	11.4	11.8	12.5	12.8	14.1	11.4	11.8	12.5	12.8	14.1
	12H	11.5	11.8	12.5	12.8	14.1	11.5	11.8	12.5	12.8	14.1

8H	4H	11.0	11.4	12.1	12.4	13.7	11.0	11.4	12.1	12.4	13.7
	6H	11.6	11.9	12.6	12.9	14.3	11.6	11.9	12.6	12.9	14.3
	8H	11.8	12.0	12.8	13.1	14.4	11.8	12.0	12.8	13.1	14.4
	12H	11.8	12.1	12.9	13.1	14.5	11.8	12.1	12.9	13.1	14.5

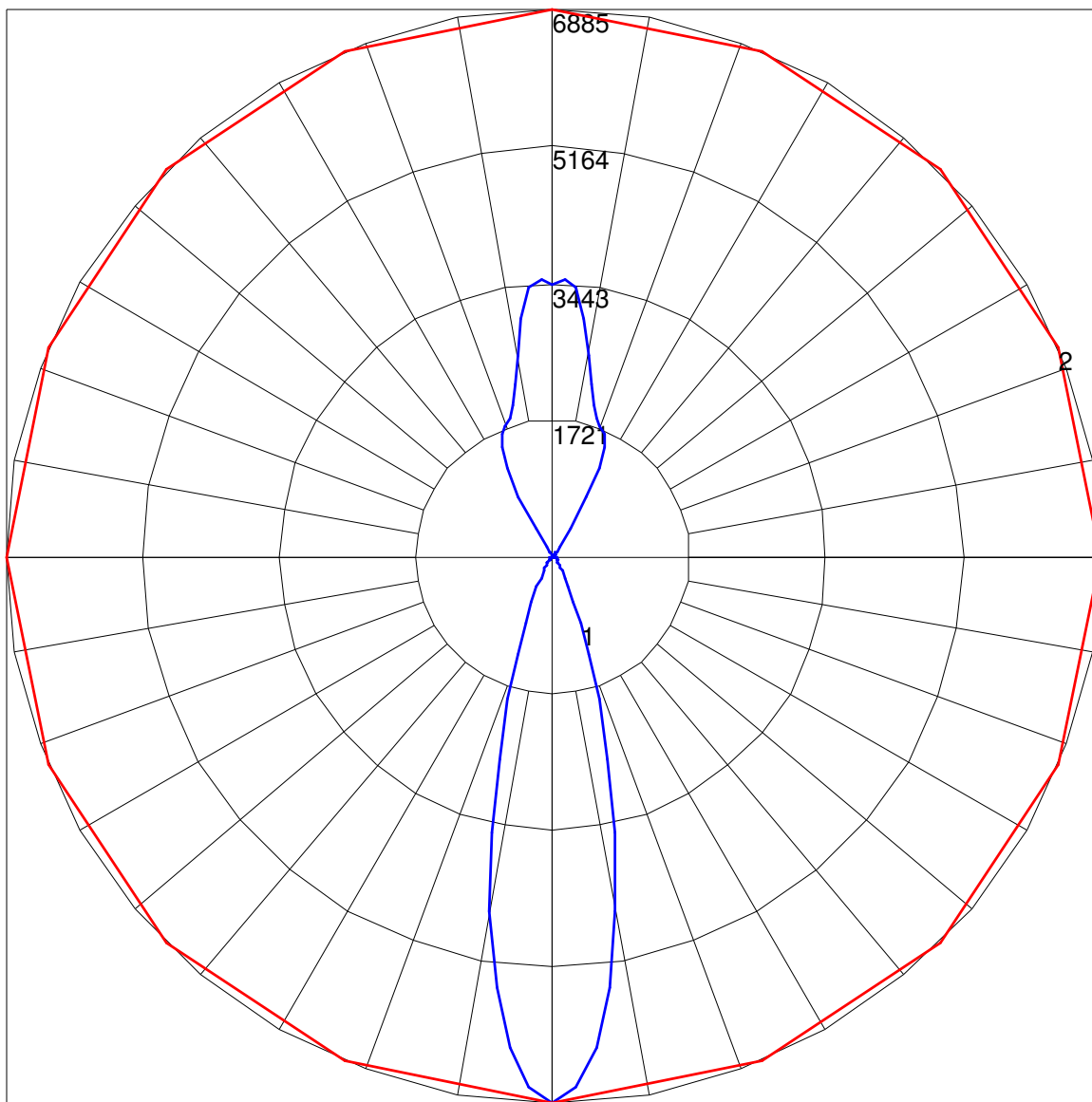
12H	4H	11.0	11.3	12.1	12.4	13.7	11.0	11.3	12.1	12.4	13.7
	6H	11.6	11.8	12.7	12.9	14.2	11.6	11.8	12.7	12.9	14.2
	8H	11.8	12.0	12.9	13.0	14.4	11.8	12.0	12.9	13.0	14.4

Maximum UGR = 14.5

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LN-WHD-WM_.IES

POLAR GRAPH



Maximum Candela = 6885 Located At Horizontal Angle = 0, Vertical Angle = 0

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)