



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LM-WHD-WM\_IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] MADE FROM 12316380.04 and 12316380.09

[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-LM-WHD-WM

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

[MORE] medium 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	3507
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	39.5946
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	12131	12131	12131
55	9455	9455	9455
65	7902	7902	7902
75	6358	6358	6358
85	3798	3798	3798

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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	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000
2.5	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000
5.0	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000
7.5	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000
10.0	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000
12.5	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000
15.0	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000
17.5	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000
20.0	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000
22.5	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000
25.0	737.400	737.400	737.400	737.400	737.400	737.400	737.400	737.400	737.400	737.400
27.5	514.300	514.300	514.300	514.300	514.300	514.300	514.300	514.300	514.300	514.300
30.0	362.700	362.700	362.700	362.700	362.700	362.700	362.700	362.700	362.700	362.700
32.5	260.300	260.300	260.300	260.300	260.300	260.300	260.300	260.300	260.300	260.300
35.0	192.700	192.700	192.700	192.700	192.700	192.700	192.700	192.700	192.700	192.700
37.5	148.800	148.800	148.800	148.800	148.800	148.800	148.800	148.800	148.800	148.800
40.0	120.700	120.700	120.700	120.700	120.700	120.700	120.700	120.700	120.700	120.700
42.5	101.700	101.700	101.700	101.700	101.700	101.700	101.700	101.700	101.700	101.700
45.0	88.100	88.100	88.100	88.100	88.100	88.100	88.100	88.100	88.100	88.100
47.5	77.800	77.800	77.800	77.800	77.800	77.800	77.800	77.800	77.800	77.800
50.0	69.300	69.300	69.300	69.300	69.300	69.300	69.300	69.300	69.300	69.300
52.5	62.200	62.200	62.200	62.200	62.200	62.200	62.200	62.200	62.200	62.200
55.0	55.700	55.700	55.700	55.700	55.700	55.700	55.700	55.700	55.700	55.700
57.5	49.700	49.700	49.700	49.700	49.700	49.700	49.700	49.700	49.700	49.700
60.0	44.300	44.300	44.300	44.300	44.300	44.300	44.300	44.300	44.300	44.300
62.5	39.200	39.200	39.200	39.200	39.200	39.200	39.200	39.200	39.200	39.200
65.0	34.300	34.300	34.300	34.300	34.300	34.300	34.300	34.300	34.300	34.300
67.5	29.700	29.700	29.700	29.700	29.700	29.700	29.700	29.700	29.700	29.700
70.0	25.200	25.200	25.200	25.200	25.200	25.200	25.200	25.200	25.200	25.200
72.5	21.000	21.000	21.000	21.000	21.000	21.000	21.000	21.000	21.000	21.000
75.0	16.900	16.900	16.900	16.900	16.900	16.900	16.900	16.900	16.900	16.900
77.5	13.100	13.100	13.100	13.100	13.100	13.100	13.100	13.100	13.100	13.100
80.0	9.500	9.500	9.500	9.500	9.500	9.500	9.500	9.500	9.500	9.500
82.5	6.300	6.300	6.300	6.300	6.300	6.300	6.300	6.300	6.300	6.300
85.0	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400
87.5	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
90.0	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300
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. 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	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000	4642.000
2.5	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000	4589.000
5.0	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000	4443.000
7.5	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000	4199.000
10.0	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000	3834.000
12.5	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000	3337.000
15.0	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000	2727.000
17.5	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000	2080.000
20.0	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000	1504.000
22.5	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000	1058.000
25.0	737.400	737.400	737.400	737.400	737.400	737.400	737.400
27.5	514.300	514.300	514.300	514.300	514.300	514.300	514.300
30.0	362.700	362.700	362.700	362.700	362.700	362.700	362.700
32.5	260.300	260.300	260.300	260.300	260.300	260.300	260.300
35.0	192.700	192.700	192.700	192.700	192.700	192.700	192.700
37.5	148.800	148.800	148.800	148.800	148.800	148.800	148.800
40.0	120.700	120.700	120.700	120.700	120.700	120.700	120.700
42.5	101.700	101.700	101.700	101.700	101.700	101.700	101.700
45.0	88.100	88.100	88.100	88.100	88.100	88.100	88.100
47.5	77.800	77.800	77.800	77.800	77.800	77.800	77.800
50.0	69.300	69.300	69.300	69.300	69.300	69.300	69.300
52.5	62.200	62.200	62.200	62.200	62.200	62.200	62.200
55.0	55.700	55.700	55.700	55.700	55.700	55.700	55.700
57.5	49.700	49.700	49.700	49.700	49.700	49.700	49.700
60.0	44.300	44.300	44.300	44.300	44.300	44.300	44.300
62.5	39.200	39.200	39.200	39.200	39.200	39.200	39.200
65.0	34.300	34.300	34.300	34.300	34.300	34.300	34.300
67.5	29.700	29.700	29.700	29.700	29.700	29.700	29.700
70.0	25.200	25.200	25.200	25.200	25.200	25.200	25.200
72.5	21.000	21.000	21.000	21.000	21.000	21.000	21.000
75.0	16.900	16.900	16.900	16.900	16.900	16.900	16.900
77.5	13.100	13.100	13.100	13.100	13.100	13.100	13.100
80.0	9.500	9.500	9.500	9.500	9.500	9.500	9.500

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82.5	6.300	6.300	6.300	6.300	6.300	6.300	6.300
85.0	3.400	3.400	3.400	3.400	3.400	3.400	3.400
87.5	1.300	1.300	1.300	1.300	1.300	1.300	1.300
90.0	0.300	0.300	0.300	0.300	0.300	0.300	0.300
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	1136.62	N.A.	32.40
0-30	1496.71	N.A.	42.70
0-40	1626.3	N.A.	46.40
0-60	1746.09	N.A.	49.80
0-80	1798.22	N.A.	51.30
0-90	1802.54	N.A.	51.40
10-90	1397.52	N.A.	39.90
20-40	489.68	N.A.	14.00
20-50	559.36	N.A.	16.00
40-70	153.90	N.A.	4.40
60-80	52.13	N.A.	1.50
70-80	18.02	N.A.	0.50
80-90	4.32	N.A.	0.10
90-110	0.70	N.A.	0.00
90-120	2.68	N.A.	0.10
90-130	9.87	N.A.	0.30
90-150	191.49	N.A.	5.50
90-180	1704.04	N.A.	48.60
110-180	1703.34	N.A.	48.60
0-180	3506.58	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	405.02
10-20	731.59
20-30	360.09
30-40	129.60
40-50	69.67
50-60	50.12
60-70	34.11
70-80	18.02
80-90	4.32
90-100	0.16
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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	101	97	94	92	93	90	88	86	77	76	74	66	65	64	55	54	53	48
2	94	89	84	80	87	83	79	75	72	69	67	61	60	58	52	51	50	46
3	88	81	76	71	82	76	71	68	67	63	60	58	55	53	50	48	47	43
4	83	75	69	64	77	70	65	61	62	58	55	54	52	50	47	46	44	41
5	78	69	63	59	73	66	60	56	58	54	51	51	49	46	45	43	42	39
6	74	65	58	54	69	61	56	52	55	51	48	49	46	44	43	41	40	37
7	70	61	54	50	66	58	52	48	52	48	45	47	43	41	42	39	38	36
8	67	57	51	47	63	54	49	45	49	45	42	44	41	39	40	38	36	34
9	63	54	48	44	60	51	46	42	47	43	40	42	39	37	38	36	35	33
10	60	51	45	41	57	49	44	40	45	41	38	41	38	36	37	35	33	32

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LM-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	9.3	10.0	10.3	11.0	12.2	9.3	10.0	10.3	11.0	12.2
	3H	10.8	11.4	11.8	12.3	13.6	10.8	11.4	11.8	12.3	13.6
	4H	11.3	11.8	12.3	12.8	14.1	11.3	11.8	12.3	12.8	14.1
	6H	11.6	12.1	12.6	13.1	14.4	11.6	12.1	12.6	13.1	14.4
	8H	11.6	12.1	12.7	13.1	14.4	11.6	12.1	12.7	13.1	14.4
	12H	11.7	12.1	12.7	13.1	14.5	11.7	12.1	12.7	13.1	14.5

### UGR Viewed Endwise

4H	2H	9.7	10.3	10.7	11.3	12.6	9.7	10.3	10.7	11.3	12.6
	3H	11.4	11.8	12.4	12.9	14.2	11.4	11.8	12.4	12.9	14.2
	4H	12.0	12.4	13.0	13.4	14.8	12.0	12.4	13.0	13.4	14.8
	6H	12.4	12.8	13.5	13.8	15.1	12.4	12.8	13.5	13.8	15.1
	8H	12.5	12.9	13.6	13.9	15.2	12.5	12.9	13.6	13.9	15.2
	12H	12.6	12.9	13.6	13.9	15.3	12.6	12.9	13.6	13.9	15.3

8H	4H	12.1	12.5	13.2	13.5	14.9	12.1	12.5	13.2	13.5	14.9
	6H	12.7	13.0	13.8	14.0	15.4	12.7	13.0	13.8	14.0	15.4
	8H	12.9	13.1	13.9	14.2	15.5	12.9	13.1	13.9	14.2	15.5
	12H	13.0	13.2	14.0	14.2	15.6	13.0	13.2	14.0	14.2	15.6

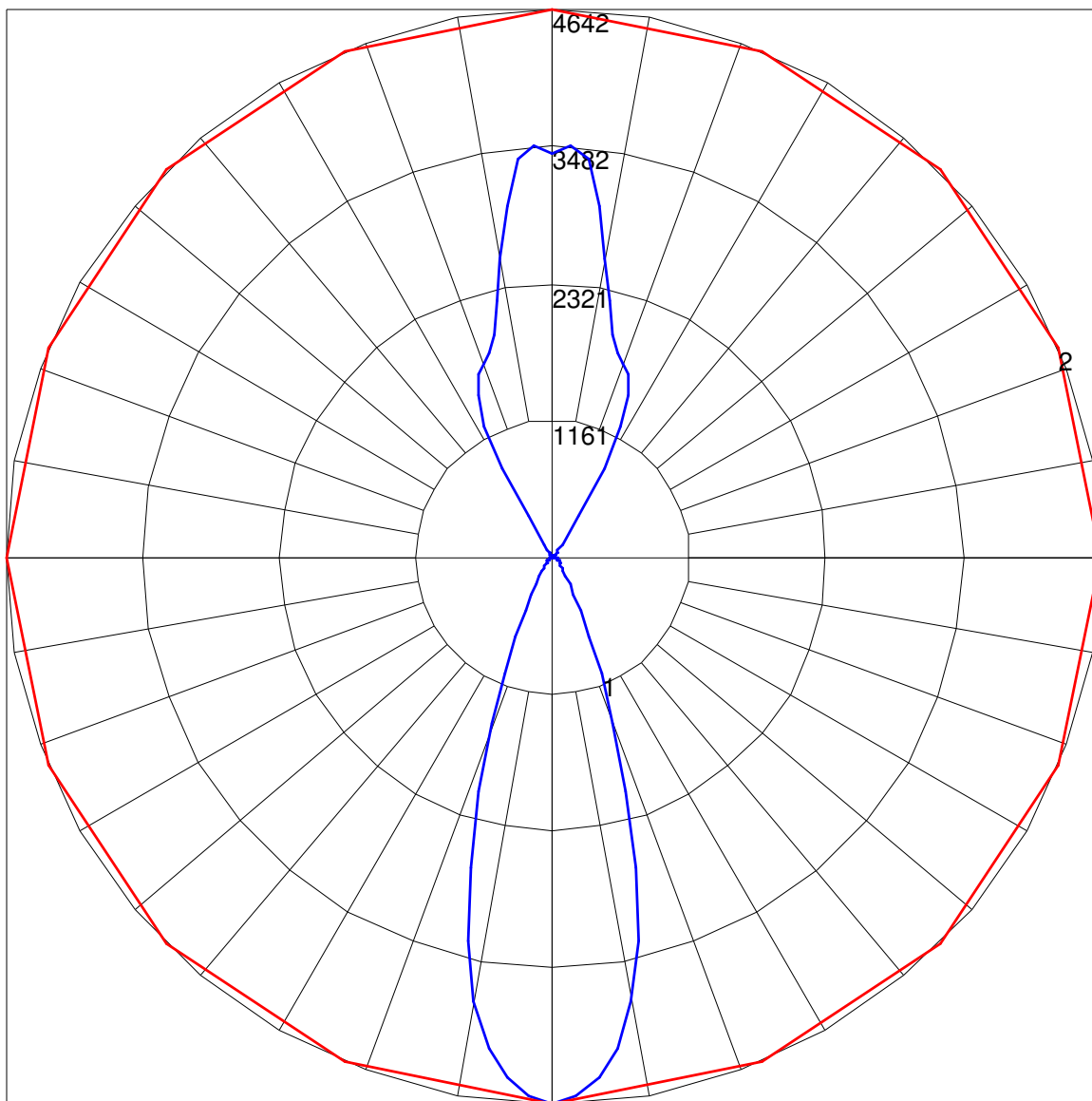
12H	4H	12.1	12.4	13.2	13.5	14.8	12.1	12.4	13.2	13.5	14.8
	6H	12.7	12.9	13.8	14.0	15.4	12.7	12.9	13.8	14.0	15.4
	8H	12.9	13.1	14.0	14.2	15.6	12.9	13.1	14.0	14.2	15.6

Maximum UGR = 15.6

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-LM-WHD-WM\_.IES

## POLAR GRAPH



Maximum Candela = 4642 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.)