



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] MADE FROM 12316380.05 and UL12316380.09
 [TESTLAB]
 [ISSUE DATE] 02/09/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 6CRDI-TL-L20-835U-L20-835D-xxx-DIM1-UNV-ON-CSU-LM-WHD-WM
 [LUMINAIRE] White formed aluminum housing, narrow 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	3538
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	0.000	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848
115.0	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848
117.5	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848
120.0	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848	0.848
122.5	1.696	1.696	1.696	1.696	1.696	1.696	1.696	1.696	1.696	1.696
125.0	1.696	1.696	1.696	1.696	1.696	1.696	1.696	1.696	1.696	1.696
127.5	2.544	2.544	2.544	2.544	2.544	2.544	2.544	2.544	2.544	2.544
130.0	4.240	4.240	4.240	4.240	4.240	4.240	4.240	4.240	4.240	4.240
132.5	5.936	5.936	5.936	5.936	5.936	5.936	5.936	5.936	5.936	5.936

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CANDELA TABULATION - (Cont.)

135.0	8.480	8.480	8.480	8.480	8.480	8.480	8.480	8.480	8.480	8.480
137.5	11.872	11.872	11.872	11.872	11.872	11.872	11.872	11.872	11.872	11.872
140.0	14.416	14.416	14.416	14.416	14.416	14.416	14.416	14.416	14.416	14.416
142.5	18.656	18.656	18.656	18.656	18.656	18.656	18.656	18.656	18.656	18.656
145.0	75.472	75.472	75.472	75.472	75.472	75.472	75.472	75.472	75.472	75.472
147.5	265.424	265.424	265.424	265.424	265.424	265.424	265.424	265.424	265.424	265.424
150.0	525.760	525.760	525.760	525.760	525.760	525.760	525.760	525.760	525.760	525.760
152.5	687.728	687.728	687.728	687.728	687.728	687.728	687.728	687.728	687.728	687.728
155.0	773.376	773.376	773.376	773.376	773.376	773.376	773.376	773.376	773.376	773.376
157.5	985.376	985.376	985.376	985.376	985.376	985.376	985.376	985.376	985.376	985.376
160.0	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640
162.5	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408
165.0	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456
167.5	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888
170.0	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592
172.5	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552
175.0	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120
177.5	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360
180.0	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000

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	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	0.000	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.848	0.848	0.848	0.848	0.848	0.848	0.848
115.0	0.848	0.848	0.848	0.848	0.848	0.848	0.848
117.5	0.848	0.848	0.848	0.848	0.848	0.848	0.848
120.0	0.848	0.848	0.848	0.848	0.848	0.848	0.848
122.5	1.696	1.696	1.696	1.696	1.696	1.696	1.696
125.0	1.696	1.696	1.696	1.696	1.696	1.696	1.696
127.5	2.544	2.544	2.544	2.544	2.544	2.544	2.544
130.0	4.240	4.240	4.240	4.240	4.240	4.240	4.240
132.5	5.936	5.936	5.936	5.936	5.936	5.936	5.936
135.0	8.480	8.480	8.480	8.480	8.480	8.480	8.480
137.5	11.872	11.872	11.872	11.872	11.872	11.872	11.872
140.0	14.416	14.416	14.416	14.416	14.416	14.416	14.416
142.5	18.656	18.656	18.656	18.656	18.656	18.656	18.656
145.0	75.472	75.472	75.472	75.472	75.472	75.472	75.472
147.5	265.424	265.424	265.424	265.424	265.424	265.424	265.424
150.0	525.760	525.760	525.760	525.760	525.760	525.760	525.760
152.5	687.728	687.728	687.728	687.728	687.728	687.728	687.728
155.0	773.376	773.376	773.376	773.376	773.376	773.376	773.376
157.5	985.376	985.376	985.376	985.376	985.376	985.376	985.376
160.0	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640	1318.640
162.5	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408	1671.408
165.0	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456	2011.456
167.5	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888	2421.888
170.0	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592	3204.592
172.5	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552	4811.552
175.0	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120	9065.120
177.5	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360	14687.360
180.0	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000	18070.000

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Zone	Lumens	%Lamp	%Fixt
0-20	1136.62	N.A.	32.10
0-30	1496.71	N.A.	42.30
0-40	1626.3	N.A.	46.00
0-60	1746.09	N.A.	49.40
0-80	1798.22	N.A.	50.80
0-90	1802.54	N.A.	51.00
10-90	1397.52	N.A.	39.50
20-40	489.68	N.A.	13.80
20-50	559.36	N.A.	15.80
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	0.04	N.A.	0.00
90-120	0.77	N.A.	0.00
90-130	2.65	N.A.	0.10
90-150	102.12	N.A.	2.90
90-180	1735.22	N.A.	49.00
110-180	1735.18	N.A.	49.00
0-180	3537.77	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	0.04
100-110	0.00
110-120	0.73
120-130	1.88
130-140	6.78
140-150	92.68
150-160	380.13
160-170	567.88
170-180	685.09

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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	100	97	94	92	93	90	88	86	77	76	74	65	64	63	54	54	53	48
2	94	88	84	80	87	83	79	75	71	69	66	61	59	58	52	50	49	45
3	88	81	75	71	82	76	71	67	66	63	60	57	55	53	49	48	46	43
4	83	75	69	64	77	70	65	61	62	58	55	54	51	49	47	45	44	41
5	78	69	63	58	73	65	60	56	58	54	51	51	48	46	45	43	41	39
6	74	64	58	54	69	61	56	52	55	51	47	49	46	43	43	41	39	37
7	70	60	54	50	66	57	52	48	52	47	44	46	43	41	41	39	38	35
8	66	57	51	46	62	54	49	45	49	45	42	44	41	39	40	37	36	34
9	63	53	48	44	60	51	46	42	47	42	40	42	39	37	38	36	34	33
10	60	51	45	41	57	48	43	40	44	40	38	40	37	35	37	35	33	31

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-ON-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	9.9	10.3	10.9	12.2	9.3	9.9	10.3	10.9	12.2
	3H	10.7	11.3	11.7	12.3	13.6	10.7	11.3	11.7	12.3	13.6
	4H	11.2	11.8	12.2	12.8	14.1	11.2	11.8	12.2	12.8	14.1
	6H	11.5	12.1	12.6	13.0	14.4	11.5	12.1	12.6	13.0	14.4
	8H	11.6	12.1	12.6	13.1	14.4	11.6	12.1	12.6	13.1	14.4
	12H	11.6	12.1	12.7	13.1	14.4	11.6	12.1	12.7	13.1	14.4

UGR Viewed Endwise

4H	2H	9.7	10.3	10.7	11.2	12.5	9.7	10.3	10.7	11.2	12.5
	3H	11.3	11.8	12.4	12.8	14.1	11.3	11.8	12.4	12.8	14.1
	4H	12.0	12.4	13.0	13.4	14.7	12.0	12.4	13.0	13.4	14.7
	6H	12.4	12.7	13.4	13.8	15.1	12.4	12.7	13.4	13.8	15.1
	8H	12.5	12.8	13.5	13.9	15.2	12.5	12.8	13.5	13.9	15.2
	12H	12.5	12.8	13.6	13.9	15.2	12.5	12.8	13.6	13.9	15.2

8H	4H	12.1	12.5	13.2	13.5	14.8	12.1	12.5	13.2	13.5	14.8
	6H	12.7	12.9	13.7	14.0	15.3	12.7	12.9	13.7	14.0	15.3
	8H	12.8	13.1	13.9	14.1	15.5	12.8	13.1	13.9	14.1	15.5
	12H	12.9	13.1	14.0	14.2	15.6	12.9	13.1	14.0	14.2	15.6

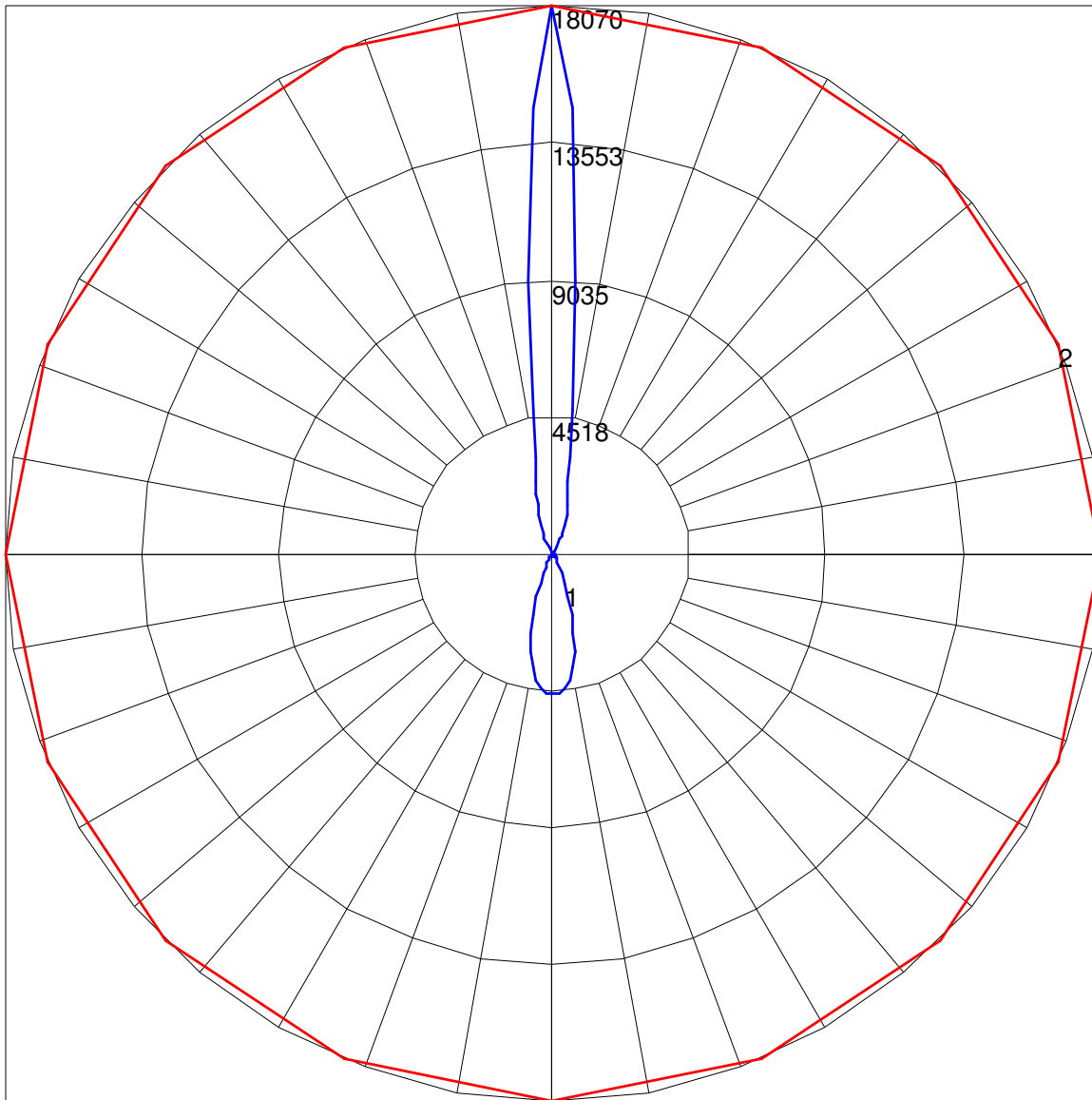
12H	4H	12.1	12.4	13.1	13.4	14.8	12.1	12.4	13.1	13.4	14.8
	6H	12.7	12.9	13.7	14.0	15.3	12.7	12.9	13.7	14.0	15.3
	8H	12.9	13.1	13.9	14.1	15.5	12.9	13.1	13.9	14.1	15.5

Maximum UGR = 15.6

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 18070 Located At Horizontal Angle = 0, Vertical Angle = 180

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

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