



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] MADE FROM 12316380.04 and 12316380.14
 [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-OM-CSU-RM-WHD-WM
 [LUMINAIRE] White formed aluminum housing, medium distrib anodized aluminum reflector trim w/clear cover glass up,
 [MORE] wide distrib white painted regressed 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	3509
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	39.5717
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	10300	10300	10300
55	7164	7164	7164
65	5115	5115	5115
75	3423	3423	3423
85	2793	2793	2793

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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	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000
2.5	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000
5.0	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000
7.5	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000
10.0	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000
12.5	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000
15.0	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000
17.5	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000
20.0	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000
22.5	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000
25.0	786.100	786.100	786.100	786.100	786.100	786.100	786.100	786.100	786.100	786.100
27.5	546.100	546.100	546.100	546.100	546.100	546.100	546.100	546.100	546.100	546.100
30.0	380.200	380.200	380.200	380.200	380.200	380.200	380.200	380.200	380.200	380.200
32.5	268.700	268.700	268.700	268.700	268.700	268.700	268.700	268.700	268.700	268.700
35.0	193.800	193.800	193.800	193.800	193.800	193.800	193.800	193.800	193.800	193.800
37.5	143.500	143.500	143.500	143.500	143.500	143.500	143.500	143.500	143.500	143.500
40.0	111.000	111.000	111.000	111.000	111.000	111.000	111.000	111.000	111.000	111.000
42.5	89.800	89.800	89.800	89.800	89.800	89.800	89.800	89.800	89.800	89.800
45.0	74.800	74.800	74.800	74.800	74.800	74.800	74.800	74.800	74.800	74.800
47.5	63.900	63.900	63.900	63.900	63.900	63.900	63.900	63.900	63.900	63.900
50.0	55.500	55.500	55.500	55.500	55.500	55.500	55.500	55.500	55.500	55.500
52.5	48.400	48.400	48.400	48.400	48.400	48.400	48.400	48.400	48.400	48.400
55.0	42.200	42.200	42.200	42.200	42.200	42.200	42.200	42.200	42.200	42.200
57.5	36.600	36.600	36.600	36.600	36.600	36.600	36.600	36.600	36.600	36.600
60.0	31.500	31.500	31.500	31.500	31.500	31.500	31.500	31.500	31.500	31.500
62.5	26.700	26.700	26.700	26.700	26.700	26.700	26.700	26.700	26.700	26.700
65.0	22.200	22.200	22.200	22.200	22.200	22.200	22.200	22.200	22.200	22.200
67.5	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000
70.0	14.300	14.300	14.300	14.300	14.300	14.300	14.300	14.300	14.300	14.300
72.5	11.400	11.400	11.400	11.400	11.400	11.400	11.400	11.400	11.400	11.400
75.0	9.100	9.100	9.100	9.100	9.100	9.100	9.100	9.100	9.100	9.100
77.5	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
80.0	5.500	5.500	5.500	5.500	5.500	5.500	5.500	5.500	5.500	5.500
82.5	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900	3.900
85.0	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500
87.5	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200
90.0	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400
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	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000	5176.000
2.5	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000	5082.000
5.0	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000	4824.000
7.5	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000	4421.000
10.0	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000	3896.000
12.5	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000	3295.000
15.0	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000	2680.000
17.5	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000	2088.000
20.0	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000	1557.000
22.5	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000	1120.000
25.0	786.100	786.100	786.100	786.100	786.100	786.100	786.100
27.5	546.100	546.100	546.100	546.100	546.100	546.100	546.100
30.0	380.200	380.200	380.200	380.200	380.200	380.200	380.200
32.5	268.700	268.700	268.700	268.700	268.700	268.700	268.700
35.0	193.800	193.800	193.800	193.800	193.800	193.800	193.800
37.5	143.500	143.500	143.500	143.500	143.500	143.500	143.500
40.0	111.000	111.000	111.000	111.000	111.000	111.000	111.000
42.5	89.800	89.800	89.800	89.800	89.800	89.800	89.800
45.0	74.800	74.800	74.800	74.800	74.800	74.800	74.800
47.5	63.900	63.900	63.900	63.900	63.900	63.900	63.900
50.0	55.500	55.500	55.500	55.500	55.500	55.500	55.500
52.5	48.400	48.400	48.400	48.400	48.400	48.400	48.400
55.0	42.200	42.200	42.200	42.200	42.200	42.200	42.200
57.5	36.600	36.600	36.600	36.600	36.600	36.600	36.600
60.0	31.500	31.500	31.500	31.500	31.500	31.500	31.500
62.5	26.700	26.700	26.700	26.700	26.700	26.700	26.700
65.0	22.200	22.200	22.200	22.200	22.200	22.200	22.200
67.5	18.000	18.000	18.000	18.000	18.000	18.000	18.000
70.0	14.300	14.300	14.300	14.300	14.300	14.300	14.300
72.5	11.400	11.400	11.400	11.400	11.400	11.400	11.400
75.0	9.100	9.100	9.100	9.100	9.100	9.100	9.100
77.5	7.200	7.200	7.200	7.200	7.200	7.200	7.200
80.0	5.500	5.500	5.500	5.500	5.500	5.500	5.500

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82.5	3.900	3.900	3.900	3.900	3.900	3.900	3.900
85.0	2.500	2.500	2.500	2.500	2.500	2.500	2.500
87.5	1.200	1.200	1.200	1.200	1.200	1.200	1.200
90.0	0.400	0.400	0.400	0.400	0.400	0.400	0.400
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-RM-WHD-WM_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1161.27	N.A.	33.10
0-30	1541.31	N.A.	43.90
0-40	1671.85	N.A.	47.60
0-60	1769.71	N.A.	50.40
0-80	1801.8	N.A.	51.40
0-90	1804.67	N.A.	51.40
10-90	1373.82	N.A.	39.20
20-40	510.58	N.A.	14.60
20-50	570.36	N.A.	16.30
40-70	120.04	N.A.	3.40
60-80	32.09	N.A.	0.90
70-80	9.91	N.A.	0.30
80-90	2.87	N.A.	0.10
90-110	0.72	N.A.	0.00
90-120	2.69	N.A.	0.10
90-130	9.88	N.A.	0.30
90-150	191.50	N.A.	5.50
90-180	1704.05	N.A.	48.60
110-180	1703.34	N.A.	48.50
0-180	3508.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	430.85
10-20	730.42
20-30	380.04
30-40	130.53
40-50	59.79
50-60	38.08
60-70	22.17
70-80	9.91
80-90	2.87
90-100	0.17
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-RM-WHD-WM_.IES****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	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	101	98	95	92	93	91	88	86	78	76	75	66	65	64	55	54	54	49
2	94	89	84	81	88	83	79	76	72	69	67	62	60	59	52	51	50	46
3	89	82	76	72	83	77	72	68	67	64	61	58	56	54	50	49	47	44
4	84	75	70	65	78	71	66	62	63	59	56	55	53	50	48	46	45	42
5	79	70	64	59	74	66	61	57	59	55	52	52	49	47	46	44	43	40
6	75	65	59	55	70	62	57	53	56	52	49	50	47	45	44	42	41	38
7	71	61	55	51	66	58	53	49	53	49	46	47	44	42	42	40	39	37
8	67	58	52	48	63	55	50	46	50	46	43	45	42	40	41	39	37	35
9	64	54	49	45	60	52	47	43	48	44	41	43	40	38	39	37	36	34
10	61	52	46	42	58	49	44	41	45	41	39	41	39	36	38	36	34	33

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-OM-CSU-RM-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	7.2	7.8	8.1	8.8	10.1	7.2	7.8	8.1	8.8	10.1
	3H	8.1	8.7	9.1	9.7	11.0	8.1	8.7	9.1	9.7	11.0
	4H	8.4	9.0	9.4	9.9	11.2	8.4	9.0	9.4	9.9	11.2
	6H	8.6	9.1	9.6	10.1	11.4	8.6	9.1	9.6	10.1	11.4
	8H	8.7	9.1	9.7	10.1	11.4	8.7	9.1	9.7	10.1	11.4
	12H	8.7	9.1	9.7	10.1	11.5	8.7	9.1	9.7	10.1	11.5

UGR Viewed Endwise

4H	2H	7.4	8.0	8.5	9.0	10.3	7.4	8.0	8.5	9.0	10.3
	3H	8.5	9.0	9.6	10.0	11.3	8.5	9.0	9.6	10.0	11.3
	4H	8.9	9.4	10.0	10.4	11.7	8.9	9.4	10.0	10.4	11.7
	6H	9.2	9.6	10.3	10.6	12.0	9.2	9.6	10.3	10.6	12.0
	8H	9.3	9.7	10.4	10.7	12.0	9.3	9.7	10.4	10.7	12.0
	12H	9.4	9.7	10.4	10.7	12.1	9.4	9.7	10.4	10.7	12.1

8H	4H	9.0	9.3	10.0	10.4	11.7	9.0	9.3	10.0	10.4	11.7
	6H	9.4	9.7	10.5	10.7	12.1	9.4	9.7	10.5	10.7	12.1
	8H	9.6	9.8	10.7	10.9	12.2	9.6	9.8	10.7	10.9	12.2
	12H	9.7	9.9	10.8	10.9	12.4	9.7	9.9	10.8	10.9	12.4

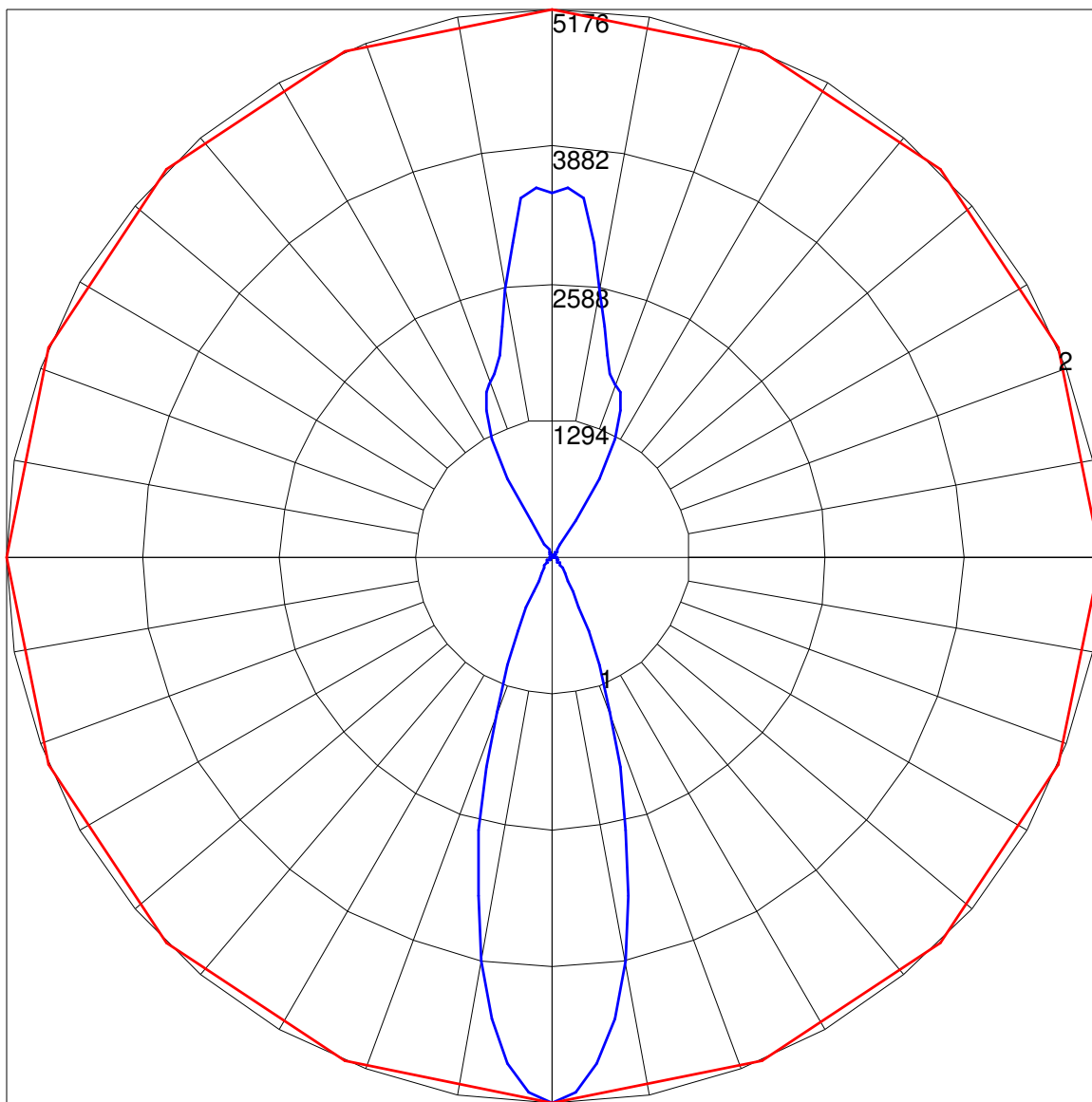
12H	4H	9.0	9.3	10.0	10.3	11.6	9.0	9.3	10.0	10.3	11.6
	6H	9.4	9.6	10.5	10.7	12.1	9.4	9.6	10.5	10.7	12.1
	8H	9.6	9.8	10.7	10.9	12.3	9.6	9.8	10.7	10.9	12.3

Maximum UGR = 12.4

IES INDOOR REPORT

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

POLAR GRAPH



Maximum Candela = 5176 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.)