



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] made from 13537338.06 and 12316380.07

[TESTLAB]

[ISSUEDATE] 02/10/2021

[MANUFAC] WILLIAMS INDOOR

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

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

[LUMINAIRE] White formed aluminum housing, wide 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)

[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	3053
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	39.5871
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 w/ Sides
Luminous Length (0-180)	0.52 ft (Diameter)
Luminous Width (90-270)	0.52 ft (Diameter)
Luminous Height	1.92 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3029	3029	3029
55	1840	1840	1840
65	937	937	937
75	388	388	388
85	72	72	72

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## CANDELA TABULATION

	<u>0</u>
0.0	949.500
0.5	949.200
1.0	948.600
1.5	947.800
2.0	947.000
2.5	946.100
3.0	944.900
3.5	944.200
4.0	943.700
4.5	943.400
5.0	943.000
5.5	942.600
6.0	942.300
6.5	941.900
7.0	941.600
7.5	941.400
8.0	941.300
8.5	941.000
9.0	940.700
9.5	940.100
10.0	939.700
10.5	939.000
11.0	938.300
11.5	937.400
12.0	936.400
12.5	935.200
13.0	933.800
13.5	932.200
14.0	930.200
14.5	927.800
15.0	924.900
15.5	921.400
16.0	917.500
16.5	912.900
17.0	907.900
17.5	902.300
18.0	895.700
18.5	888.900
19.0	881.500
19.5	873.200
20.0	864.100
20.5	854.200
21.0	843.500
21.5	832.000
22.0	819.300
22.5	805.800
23.0	791.300
23.5	775.700
24.0	758.900
24.5	741.000
25.0	721.600
25.5	701.300
26.0	679.600
26.5	656.600

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27.0	632.800
27.5	608.000
28.0	582.800
28.5	557.500
29.0	532.700
29.5	508.400
30.0	485.000
30.5	463.000
31.0	442.400
31.5	423.600
32.0	406.500
32.5	391.100
33.0	377.400
33.5	365.200
34.0	354.300
34.5	344.700
35.0	336.000
35.5	328.100
36.0	321.100
36.5	314.500
37.0	308.500
37.5	302.900
38.0	297.700
38.5	292.700
39.0	288.100
39.5	283.600
40.0	279.400
40.5	275.200
41.0	271.200
41.5	267.300
42.0	263.600
42.5	259.900
43.0	256.200
43.5	252.500
44.0	248.800
44.5	245.100
45.0	241.400
45.5	237.700
46.0	234.000
46.5	230.300
47.0	226.400
47.5	222.500
48.0	218.600
48.5	214.600
49.0	210.500
49.5	206.400
50.0	202.400
50.5	198.300
51.0	194.200
51.5	190.100
52.0	186.100
52.5	182.100
53.0	178.000
53.5	173.800
54.0	169.500
54.5	165.200

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55.0	160.900
55.5	156.600
56.0	152.400
56.5	148.300
57.0	144.200
57.5	140.100
58.0	136.100
58.5	132.200
59.0	128.300
59.5	124.500
60.0	120.800
60.5	117.100
61.0	113.500
61.5	110.000
62.0	106.500
62.5	103.000
63.0	99.660
63.5	96.340
64.0	93.080
64.5	89.870
65.0	86.730
65.5	83.670
66.0	80.650
66.5	77.710
67.0	74.840
67.5	72.020
68.0	69.290
68.5	66.620
69.0	63.950
69.5	61.370
70.0	58.860
70.5	56.390
71.0	53.980
71.5	51.630
72.0	49.360
72.5	47.120
73.0	44.940
73.5	42.820
74.0	40.740
74.5	38.730
75.0	36.770
75.5	34.870
76.0	33.010
76.5	31.200
77.0	29.470
77.5	27.750
78.0	26.090
78.5	24.480
79.0	22.900
79.5	21.380
80.0	19.890
80.5	18.440
81.0	17.010
81.5	15.620
82.0	14.260
82.5	12.940

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83.0	11.630
83.5	10.360
84.0	9.120
84.5	7.910
85.0	6.750
85.5	5.630
86.0	4.560
86.5	3.550
87.0	2.660
87.5	1.920
88.0	1.340
88.5	0.850
89.0	0.530
89.5	0.360
90.0	3.510
90.5	3.293
91.0	3.293
91.5	3.325
92.0	3.358
92.5	3.390
93.0	3.423
93.5	3.488
94.0	3.553
94.5	3.586
95.0	3.651
95.5	3.716
96.0	3.782
96.5	3.847
97.0	3.912
97.5	3.977
98.0	4.042
98.5	4.140
99.0	4.205
99.5	4.271
100.0	4.368
100.5	4.466
101.0	4.531
101.5	4.629
102.0	4.727
102.5	4.825
103.0	4.923
103.5	5.020
104.0	5.118
104.5	5.249
105.0	5.379
105.5	5.477
106.0	5.607
106.5	5.738
107.0	5.868
107.5	5.966
108.0	6.129
108.5	6.259
109.0	6.390
109.5	6.553
110.0	6.716
110.5	6.911

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111.0	7.074
111.5	7.237
112.0	7.433
112.5	7.661
113.0	7.857
113.5	8.085
114.0	8.313
114.5	8.541
115.0	8.802
115.5	9.063
116.0	9.324
116.5	9.617
117.0	9.910
117.5	10.236
118.0	10.562
118.5	10.888
119.0	11.280
119.5	11.638
120.0	12.095
120.5	12.518
121.0	12.975
121.5	13.496
122.0	14.018
122.5	14.572
123.0	15.192
123.5	15.844
124.0	16.561
124.5	17.311
125.0	18.158
125.5	19.038
126.0	20.049
126.5	21.125
127.0	22.298
127.5	23.472
128.0	24.711
128.5	25.982
129.0	27.351
129.5	28.818
130.0	30.448
130.5	32.176
131.0	33.969
131.5	35.860
132.0	37.946
132.5	40.261
133.0	42.934
133.5	45.999
134.0	49.454
134.5	53.399
135.0	58.061
135.5	63.994
136.0	71.753
136.5	81.761
137.0	94.214
137.5	108.917
138.0	126.064
138.5	145.461

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139.0	166.684
139.5	189.797
140.0	214.801
140.5	242.479
141.0	272.960
141.5	305.625
142.0	340.996
142.5	378.812
143.0	419.236
143.5	462.594
144.0	508.886
144.5	557.460
145.0	607.664
145.5	658.194
146.0	708.398
146.5	759.254
147.0	810.110
147.5	861.944
148.0	913.778
148.5	965.286
149.0	1015.816
149.5	1066.020
150.0	1114.594
150.5	1161.538
151.0	1206.852
151.5	1249.884
152.0	1290.960
152.5	1328.776
153.0	1363.658
153.5	1395.606
154.0	1423.968
154.5	1450.374
155.0	1473.520
155.5	1495.036
156.0	1512.966
156.5	1527.636
157.0	1540.024
157.5	1550.130
158.0	1557.302
158.5	1562.844
159.0	1566.104
159.5	1568.060
160.0	1568.060
160.5	1567.082
161.0	1565.126
161.5	1562.844
162.0	1559.258
162.5	1555.020
163.0	1550.130
163.5	1544.262
164.0	1539.372
164.5	1533.504
165.0	1528.288
165.5	1523.072
166.0	1517.856
166.5	1512.640

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167.0	1507.424
167.5	1501.230
168.0	1495.362
168.5	1489.168
169.0	1482.648
169.5	1476.454
170.0	1469.934
170.5	1463.740
171.0	1457.546
171.5	1451.678
172.0	1445.158
172.5	1437.334
173.0	1428.532
173.5	1418.426
174.0	1407.994
174.5	1398.540
175.0	1389.412
175.5	1381.262
176.0	1373.764
176.5	1366.918
177.0	1359.420
177.5	1352.574
178.0	1346.054
178.5	1339.534
179.0	1336.274
179.5	1333.992
180.0	1332.688



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Zone	Lumens	%Lamp	%Fixt
0-20	348.77	N.A.	11.40
0-30	668.98	N.A.	21.90
0-40	887.10	N.A.	29.10
0-60	1216.81	N.A.	39.90
0-80	1343.2	N.A.	44.00
0-90	1351.74	N.A.	44.30
10-90	1261.8	N.A.	41.30
20-40	538.33	N.A.	17.60
20-50	724.24	N.A.	23.70
40-70	416.43	N.A.	13.60
60-80	126.39	N.A.	4.10
70-80	39.67	N.A.	1.30
80-90	8.54	N.A.	0.30
90-110	9.77	N.A.	0.30
90-120	18.66	N.A.	0.60
90-130	35.75	N.A.	1.20
90-150	477.02	N.A.	15.60
90-180	1701.54	N.A.	55.70
110-180	1691.77	N.A.	55.40
0-180	3053.28	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	89.94
10-20	258.83
20-30	320.21
30-40	218.12
40-50	185.91
50-60	143.80
60-70	86.72
70-80	39.67
80-90	8.54
90-100	4.05
100-110	5.72
110-120	8.89
120-130	17.09
130-140	60.18
140-150	381.08
150-160	654.68
160-170	434.29
170-180	135.54

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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	98	94	90	87	89	86	83	80	72	70	68	59	57	56	47	46	45	39
2	90	83	78	73	82	76	72	68	64	61	58	53	51	49	42	41	40	35
3	83	74	67	62	76	68	63	58	58	53	50	48	45	42	39	37	35	31
4	76	66	59	54	70	61	55	50	52	47	44	43	40	37	35	33	31	28
5	70	60	52	47	65	55	49	44	47	42	39	40	36	33	33	30	28	25
6	65	54	47	41	60	50	44	39	43	38	34	36	33	30	30	28	26	23
7	61	49	42	37	56	46	40	35	40	35	31	34	30	27	28	25	23	21
8	57	45	38	33	52	42	36	31	37	32	28	31	27	25	26	23	21	19
9	53	42	35	30	49	39	33	29	34	29	26	29	25	23	24	22	20	18
10	50	39	32	27	46	36	30	26	31	27	23	27	23	21	23	20	18	16

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## 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	7.0	7.7	8.0	8.7	10.1	7.0	7.7	8.0	8.7	10.1
	3H	7.7	8.4	8.8	9.4	10.8	7.7	8.4	8.8	9.4	10.8
	4H	7.9	8.5	8.9	9.5	10.9	7.9	8.5	8.9	9.5	10.9
	6H	7.9	8.5	9.0	9.5	10.9	7.9	8.5	9.0	9.5	10.9
	8H	7.9	8.4	9.0	9.5	10.9	7.9	8.4	9.0	9.5	10.9
	12H	7.8	8.4	8.9	9.4	10.8	7.8	8.4	8.9	9.4	10.8

### UGR Viewed Endwise

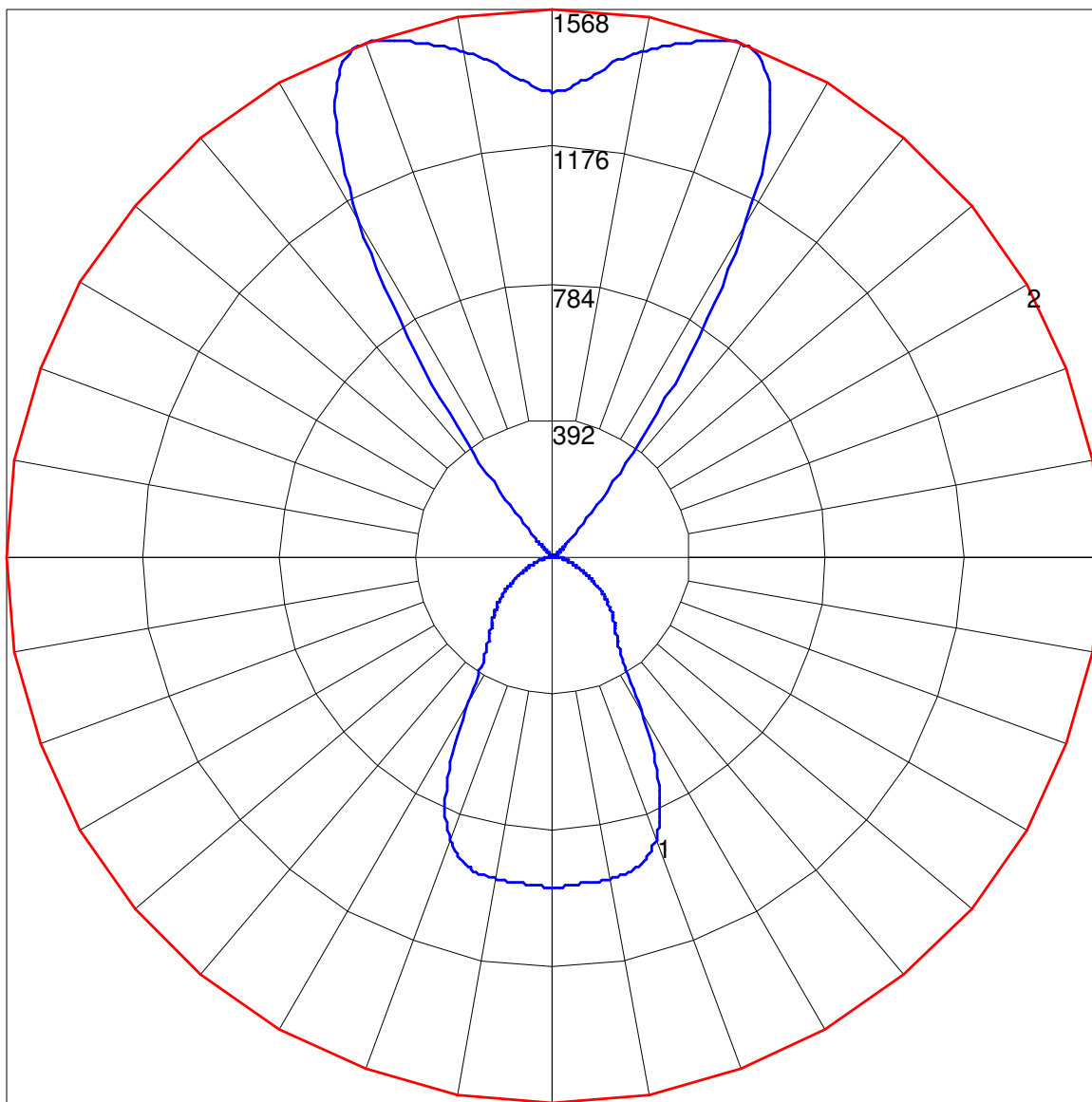
4H	2H	7.1	7.7	8.2	8.8	10.2	7.1	7.7	8.2	8.8	10.2
	3H	8.0	8.5	9.0	9.6	11.0	8.0	8.5	9.0	9.6	11.0
	4H	8.2	8.7	9.3	9.7	11.1	8.2	8.7	9.3	9.7	11.1
	6H	8.3	8.7	9.4	9.8	11.2	8.3	8.7	9.4	9.8	11.2
	8H	8.3	8.6	9.3	9.7	11.1	8.3	8.6	9.3	9.7	11.1
	12H	8.2	8.6	9.3	9.6	11.1	8.2	8.6	9.3	9.6	11.1
8H	4H	8.2	8.5	9.2	9.6	11.0	8.2	8.5	9.2	9.6	11.0
	6H	8.3	8.6	9.4	9.7	11.1	8.3	8.6	9.4	9.7	11.1
	8H	8.3	8.6	9.4	9.7	11.1	8.3	8.6	9.4	9.7	11.1
	12H	8.3	8.5	9.4	9.6	11.1	8.3	8.5	9.4	9.6	11.1
12H	4H	8.1	8.4	9.2	9.5	11.0	8.1	8.4	9.2	9.5	11.0
	6H	8.2	8.5	9.3	9.6	11.1	8.2	8.5	9.3	9.6	11.1
	8H	8.3	8.5	9.4	9.6	11.1	8.3	8.5	9.4	9.6	11.1

Maximum UGR = 11.2

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## POLAR GRAPH



Maximum Candela = 1568.06 Located At Horizontal Angle = 0, Vertical Angle = 159.5

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

# 2 - Horizontal Cone Through Vertical Angle (159.5) (Through Max. Cd.)