



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CRDI-TL-L20-835U-L20-835D-XXX-DIM1-UNV-LW-CSU-RM-WHD-WM\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.04 and #12326812.14

[TESTLAB]

[ISSUE DATE] 16-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-L20-835U-L20-835D-xxx-DIM1-UNV-LW-CSU-RM-WHD-WM

[LUMINAIRE] White formed aluminum housing, wide distrib white patined flush prismatic lens trim up,

[MORE] medium distrib white painted regressed prismatic lens trim down

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

[\_SEARCH\_SOURCE TYPE] LED

[\_SEARCH\_APPLICATION] INDOOR, DIRECT, INDIRECT

[\_SEARCH\_MOUNTING] WALL

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3341
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	88
Total Luminaire Watts	37.9904
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)	0.65 ft (Diameter)
Luminous Width (90-270)	0.65 ft (Diameter)
Luminous Height	2.17 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	668	668	668
55	334	334	334
65	173	173	173
75	72	72	72
85	20	20	20

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## CANDELA TABULATION

	<u>0</u>
0.0	4313.000
0.5	4311.000
1.0	4305.000
1.5	4295.000
2.0	4281.000
2.5	4264.000
3.0	4243.000
3.5	4219.000
4.0	4193.000
4.5	4163.000
5.0	4131.000
5.5	4096.000
6.0	4057.000
6.5	4014.000
7.0	3968.000
7.5	3918.000
8.0	3864.000
8.5	3806.000
9.0	3744.000
9.5	3677.000
10.0	3607.000
10.5	3532.000
11.0	3452.000
11.5	3368.000
12.0	3280.000
12.5	3186.000
13.0	3090.000
13.5	2989.000
14.0	2885.000
14.5	2779.000
15.0	2669.000
15.5	2559.000
16.0	2447.000
16.5	2335.000
17.0	2225.000
17.5	2120.000
18.0	2012.000
18.5	1905.000
19.0	1800.000
19.5	1700.000
20.0	1605.000
20.5	1513.000
21.0	1423.000
21.5	1337.000
22.0	1254.000
22.5	1176.000
23.0	1102.000
23.5	1032.000
24.0	966.200
24.5	904.500
25.0	846.400
25.5	791.900
26.0	741.000
26.5	693.200

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27.0	648.700
27.5	607.100
28.0	568.100
28.5	531.900
29.0	497.900
29.5	466.100
30.0	436.200
30.5	408.300
31.0	382.200
31.5	357.700
32.0	334.800
32.5	313.300
33.0	293.100
33.5	274.200
34.0	256.400
34.5	239.900
35.0	224.500
35.5	210.100
36.0	196.700
36.5	184.300
37.0	172.800
37.5	162.200
38.0	152.400
38.5	143.400
39.0	135.100
39.5	127.500
40.0	120.600
40.5	114.300
41.0	108.500
41.5	103.200
42.0	98.300
42.5	93.800
43.0	89.600
43.5	85.800
44.0	82.200
44.5	79.000
45.0	75.900
45.5	73.100
46.0	70.400
46.5	67.900
47.0	65.600
47.5	63.500
48.0	61.500
48.5	59.600
49.0	57.800
49.5	56.000
50.0	54.400
50.5	52.900
51.0	51.400
51.5	50.000
52.0	48.700
52.5	47.300
53.0	46.100
53.5	44.900
54.0	43.700
54.5	42.500

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55.0	41.400
55.5	40.300
56.0	39.300
56.5	38.200
57.0	37.200
57.5	36.200
58.0	35.200
58.5	34.200
59.0	33.300
59.5	32.300
60.0	31.400
60.5	30.500
61.0	29.600
61.5	28.700
62.0	27.800
62.5	26.900
63.0	26.100
63.5	25.200
64.0	24.400
64.5	23.500
65.0	22.700
65.5	21.900
66.0	21.100
66.5	20.300
67.0	19.500
67.5	18.800
68.0	18.000
68.5	17.300
69.0	16.600
69.5	15.800
70.0	15.200
70.5	14.500
71.0	13.900
71.5	13.200
72.0	12.600
72.5	12.000
73.0	11.500
73.5	11.000
74.0	10.500
74.5	10.000
75.0	9.600
75.5	9.100
76.0	8.700
76.5	8.400
77.0	8.000
77.5	7.600
78.0	7.300
78.5	6.900
79.0	6.600
79.5	6.300
80.0	5.900
80.5	5.600
81.0	5.200
81.5	4.900
82.0	4.600
82.5	4.300

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83.0	4.000
83.5	3.600
84.0	3.300
84.5	3.000
85.0	2.700
85.5	2.400
86.0	2.200
86.5	1.900
87.0	1.600
87.5	1.300
88.0	1.000
88.5	0.800
89.0	0.700
89.5	0.500
90.0	4.104
90.5	3.793
91.0	4.028
91.5	4.469
92.0	5.027
92.5	5.704
93.0	6.439
93.5	7.262
94.0	8.114
94.5	8.967
95.0	9.967
95.5	11.084
96.0	12.289
96.5	13.671
97.0	15.259
97.5	16.905
98.0	18.522
98.5	20.139
99.0	21.785
99.5	23.461
100.0	25.166
100.5	26.872
101.0	28.577
101.5	30.311
102.0	32.075
102.5	33.839
103.0	35.603
103.5	37.456
104.0	39.308
104.5	41.219
105.0	43.189
105.5	45.188
106.0	47.246
106.5	49.363
107.0	51.509
107.5	53.743
108.0	56.066
108.5	58.418
109.0	60.887
109.5	63.416
110.0	66.032
110.5	68.678

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111.0	71.354
111.5	74.147
112.0	76.969
112.5	79.850
113.0	82.849
113.5	85.936
114.0	89.053
114.5	92.228
115.0	95.491
115.5	98.843
116.0	102.253
116.5	105.752
117.0	109.368
117.5	113.014
118.0	116.747
118.5	120.569
119.0	124.509
119.5	128.537
120.0	132.623
120.5	136.769
121.0	141.061
121.5	145.412
122.0	149.911
122.5	154.438
123.0	159.083
123.5	163.846
124.0	168.668
124.5	173.578
125.0	178.546
125.5	183.603
126.0	188.719
126.5	193.864
127.0	199.038
127.5	204.271
128.0	209.563
128.5	214.885
129.0	220.265
129.5	225.645
130.0	231.025
130.5	236.405
131.0	241.815
131.5	247.166
132.0	252.546
132.5	257.926
133.0	263.277
133.5	268.657
134.0	274.067
134.5	279.418
135.0	284.798
135.5	290.207
136.0	295.764
136.5	301.350
137.0	306.936
137.5	312.816
138.0	318.990
138.5	325.164

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139.0	331.632
139.5	338.394
140.0	345.156
140.5	352.506
141.0	360.444
141.5	368.382
142.0	377.202
142.5	386.610
143.0	396.606
143.5	407.190
144.0	418.068
144.5	429.828
145.0	442.470
145.5	455.406
146.0	468.636
146.5	483.042
147.0	498.624
147.5	514.794
148.0	531.552
148.5	549.486
149.0	567.714
149.5	585.942
150.0	604.464
150.5	622.692
151.0	641.802
151.5	660.618
152.0	679.434
152.5	697.956
153.0	717.360
153.5	736.764
154.0	755.580
154.5	774.690
155.0	792.918
155.5	810.852
156.0	828.198
156.5	845.250
157.0	862.008
157.5	877.590
158.0	892.878
158.5	906.990
159.0	919.926
159.5	932.274
160.0	943.740
160.5	954.324
161.0	964.026
161.5	972.552
162.0	980.784
162.5	988.134
163.0	994.308
163.5	1000.188
164.0	1005.186
164.5	1009.302
165.0	1013.418
165.5	1016.652
166.0	1019.592
166.5	1022.238

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<b>167.0</b>	1024.590
<b>167.5</b>	1026.942
<b>168.0</b>	1028.706
<b>168.5</b>	1030.470
<b>169.0</b>	1032.234
<b>169.5</b>	1033.410
<b>170.0</b>	1034.586
<b>170.5</b>	1036.056
<b>171.0</b>	1036.938
<b>171.5</b>	1038.114
<b>172.0</b>	1038.996
<b>172.5</b>	1040.172
<b>173.0</b>	1041.348
<b>173.5</b>	1042.524
<b>174.0</b>	1043.406
<b>174.5</b>	1044.288
<b>175.0</b>	1045.170
<b>175.5</b>	1046.052
<b>176.0</b>	1046.640
<b>176.5</b>	1046.934
<b>177.0</b>	1047.522
<b>177.5</b>	1047.522
<b>178.0</b>	1047.816
<b>178.5</b>	1048.110
<b>179.0</b>	1047.816
<b>179.5</b>	1047.816
<b>180.0</b>	1047.816

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Zone	Lumens	%Lamp	%Fixt
0-20	1096.46	N.A.	32.80
0-30	1499.17	N.A.	44.90
0-40	1647.4	N.A.	49.30
0-60	1745.78	N.A.	52.30
0-80	1778.85	N.A.	53.30
0-90	1782.03	N.A.	53.30
10-90	1404.08	N.A.	42.00
20-40	550.94	N.A.	16.50
20-50	611.94	N.A.	18.30
40-70	121.00	N.A.	3.60
60-80	33.07	N.A.	1.00
70-80	10.45	N.A.	0.30
80-90	3.19	N.A.	0.10
90-110	58.97	N.A.	1.80
90-120	154.59	N.A.	4.60
90-130	314.86	N.A.	9.40
90-150	816.41	N.A.	24.40
90-180	1558.51	N.A.	46.70
110-180	1499.53	N.A.	44.90
0-180	3340.54	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	377.95
10-20	718.50
20-30	402.72
30-40	148.23
40-50	60.99
50-60	37.38
60-70	22.62
70-80	10.45
80-90	3.19
90-100	12.60
100-110	46.38
110-120	95.61
120-130	160.27
130-140	220.05
140-150	281.50
150-160	359.01
160-170	283.68
170-180	99.41

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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	85	85	85	72	72	72	59	59	59	53
1	101	98	95	92	94	91	89	87	79	77	76	67	66	65	57	56	55	50
2	95	89	85	81	88	84	80	77	73	70	68	63	61	60	54	53	52	48
3	89	82	77	72	83	77	73	69	68	65	62	59	57	55	51	50	49	45
4	84	76	70	65	78	72	66	62	63	60	57	56	53	51	49	47	46	43
5	79	70	64	60	74	67	61	57	60	56	53	53	50	48	47	45	43	41
6	75	66	59	55	70	62	57	53	56	52	49	50	47	45	45	43	41	39
7	71	61	55	51	67	59	53	49	53	49	46	48	45	43	43	41	39	37
8	67	58	52	48	64	55	50	46	50	46	43	46	43	40	41	39	38	36
9	64	55	49	45	61	52	47	43	48	44	41	44	41	38	40	38	36	34
10	61	52	46	42	58	50	44	41	46	42	39	42	39	37	38	36	34	33

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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	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	3H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	4H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	6H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	8H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	12H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2

### UGR Viewed Endwise

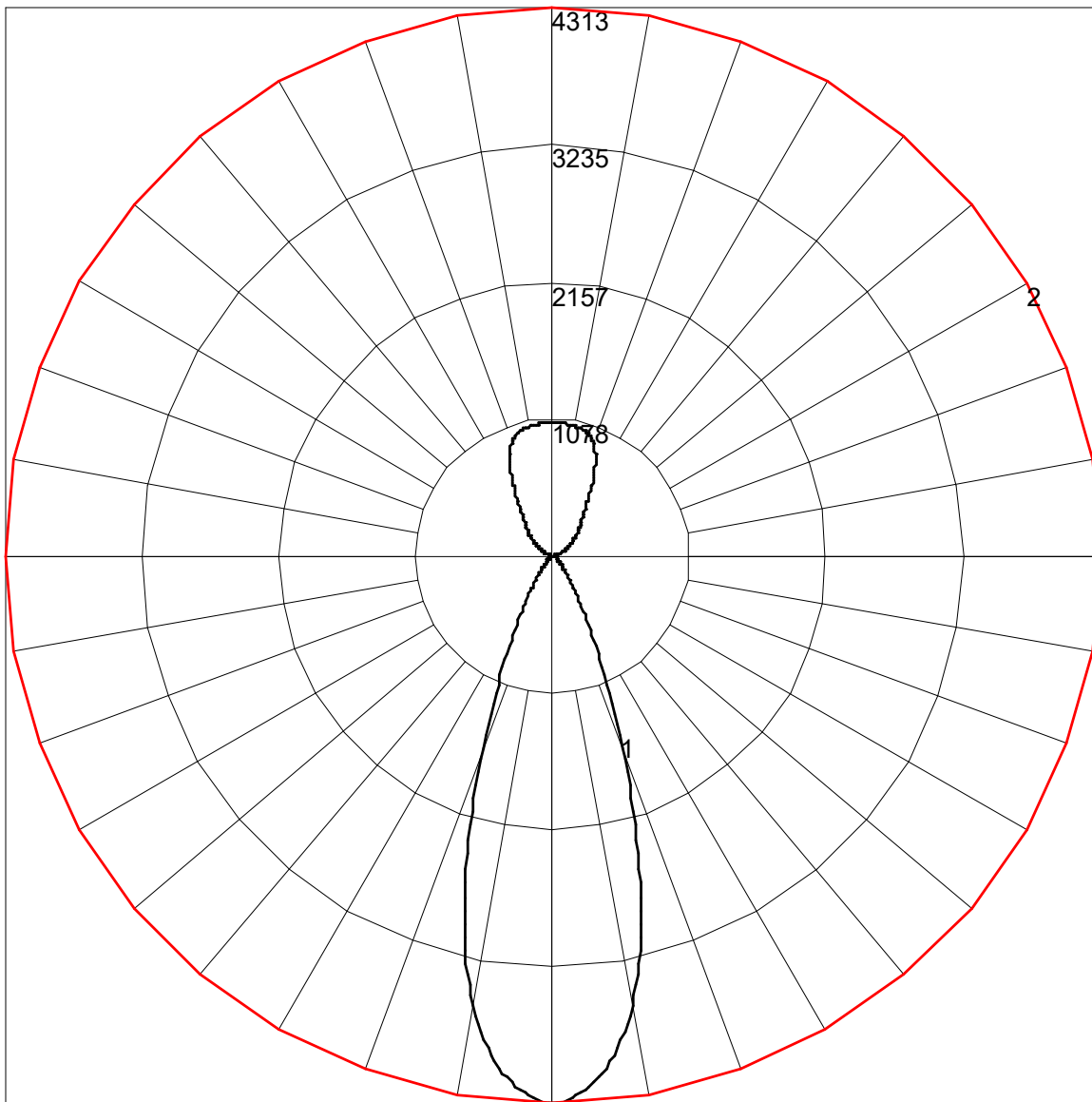
4H	2H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	3H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	4H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	6H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	8H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	12H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
8H	4H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	6H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	8H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	12H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
12H	4H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	6H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	8H	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2

Maximum UGR = 4.2

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## POLAR GRAPH



Maximum Candela = 4313 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (90 - 270)

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