



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #13537338.04 and #12326812.12

[TESTLAB]

[ISSUE DATE] 16-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

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

[MORE] wide 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	3004
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	79
Total Luminaire Watts	37.985
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	2035	2035	2035
55	1260	1260	1260
65	621	621	621
75	228	228	228
85	61	61	61

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## CANDELA TABULATION

	<u>0</u>
0.0	1069.000
0.5	1068.000
1.0	1067.000
1.5	1066.000
2.0	1064.000
2.5	1061.000
3.0	1058.000
3.5	1054.000
4.0	1050.000
4.5	1047.000
5.0	1043.000
5.5	1039.000
6.0	1035.000
6.5	1031.000
7.0	1027.000
7.5	1023.000
8.0	1018.000
8.5	1014.000
9.0	1010.000
9.5	1005.000
10.0	1001.000
10.5	996.100
11.0	991.300
11.5	986.500
12.0	981.700
12.5	977.000
13.0	972.200
13.5	967.200
14.0	962.300
14.5	957.500
15.0	953.000
15.5	948.400
16.0	943.900
16.5	939.500
17.0	935.400
17.5	931.300
18.0	927.300
18.5	923.500
19.0	919.700
19.5	915.800
20.0	911.800
20.5	907.500
21.0	902.600
21.5	897.000
22.0	890.700
22.5	883.700
23.0	876.100
23.5	867.500
24.0	858.100
24.5	847.800
25.0	836.400
25.5	824.100
26.0	810.400
26.5	795.400

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27.0	779.400
27.5	762.000
28.0	743.500
28.5	723.400
29.0	702.200
29.5	679.200
30.0	654.800
30.5	629.000
31.0	602.200
31.5	574.800
32.0	546.900
32.5	519.200
33.0	491.800
33.5	465.300
34.0	439.900
34.5	416.000
35.0	394.200
35.5	374.200
36.0	356.600
36.5	341.000
37.0	327.300
37.5	315.600
38.0	305.300
38.5	296.200
39.0	288.300
39.5	281.300
40.0	274.900
40.5	269.100
41.0	263.700
41.5	258.800
42.0	254.300
42.5	250.000
43.0	245.900
43.5	242.000
44.0	238.300
44.5	234.800
45.0	231.200
45.5	227.800
46.0	224.300
46.5	220.900
47.0	217.400
47.5	213.900
48.0	210.300
48.5	206.700
49.0	203.300
49.5	199.800
50.0	196.100
50.5	192.300
51.0	188.400
51.5	184.500
52.0	180.600
52.5	176.600
53.0	172.700
53.5	168.900
54.0	164.700
54.5	160.500

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<b>55.0</b>	156.400
<b>55.5</b>	152.200
<b>56.0</b>	148.100
<b>56.5</b>	144.000
<b>57.0</b>	139.900
<b>57.5</b>	135.800
<b>58.0</b>	131.900
<b>58.5</b>	127.900
<b>59.0</b>	124.000
<b>59.5</b>	120.200
<b>60.0</b>	116.400
<b>60.5</b>	112.600
<b>61.0</b>	108.900
<b>61.5</b>	105.300
<b>62.0</b>	101.700
<b>62.5</b>	98.200
<b>63.0</b>	94.700
<b>63.5</b>	91.200
<b>64.0</b>	87.900
<b>64.5</b>	84.500
<b>65.0</b>	81.300
<b>65.5</b>	78.000
<b>66.0</b>	74.900
<b>66.5</b>	71.800
<b>67.0</b>	68.800
<b>67.5</b>	65.800
<b>68.0</b>	62.900
<b>68.5</b>	60.000
<b>69.0</b>	57.300
<b>69.5</b>	54.500
<b>70.0</b>	51.900
<b>70.5</b>	49.300
<b>71.0</b>	46.800
<b>71.5</b>	44.400
<b>72.0</b>	42.000
<b>72.5</b>	39.800
<b>73.0</b>	37.700
<b>73.5</b>	35.800
<b>74.0</b>	33.900
<b>74.5</b>	32.200
<b>75.0</b>	30.500
<b>75.5</b>	29.000
<b>76.0</b>	27.500
<b>76.5</b>	26.200
<b>77.0</b>	25.000
<b>77.5</b>	23.800
<b>78.0</b>	22.600
<b>78.5</b>	21.400
<b>79.0</b>	20.300
<b>79.5</b>	19.200
<b>80.0</b>	18.100
<b>80.5</b>	17.000
<b>81.0</b>	15.900
<b>81.5</b>	14.900
<b>82.0</b>	13.800
<b>82.5</b>	12.800

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83.0	11.800
83.5	10.900
84.0	9.900
84.5	9.000
85.0	8.100
85.5	7.200
86.0	6.300
86.5	5.400
87.0	4.600
87.5	3.700
88.0	3.000
88.5	2.400
89.0	1.900
89.5	1.400
90.0	4.704
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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167.0	1024.590
167.5	1026.942
168.0	1028.706
168.5	1030.470
169.0	1032.234
169.5	1033.410
170.0	1034.586
170.5	1036.056
171.0	1036.938
171.5	1038.114
172.0	1038.996
172.5	1040.172
173.0	1041.348
173.5	1042.524
174.0	1043.406
174.5	1044.288
175.0	1045.170
175.5	1046.052
176.0	1046.640
176.5	1046.934
177.0	1047.522
177.5	1047.522
178.0	1047.816
178.5	1048.110
179.0	1047.816
179.5	1047.816
180.0	1047.816



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Zone	Lumens	%Lamp	%Fixt
0-20	367.33	N.A.	12.20
0-30	742.60	N.A.	24.70
0-40	1002.24	N.A.	33.40
0-60	1320.85	N.A.	44.00
0-80	1435.88	N.A.	47.80
0-90	1445.2	N.A.	48.10
10-90	1347.00	N.A.	44.80
20-40	634.91	N.A.	21.10
20-50	814.04	N.A.	27.10
40-70	399.80	N.A.	13.30
60-80	115.02	N.A.	3.80
70-80	33.84	N.A.	1.10
80-90	9.33	N.A.	0.30
90-110	58.99	N.A.	2.00
90-120	154.60	N.A.	5.10
90-130	314.87	N.A.	10.50
90-150	816.42	N.A.	27.20
90-180	1558.52	N.A.	51.90
110-180	1499.53	N.A.	49.90
0-180	3003.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	98.20
10-20	269.13
20-30	375.27
30-40	259.64
40-50	179.13
50-60	139.48
60-70	81.18
70-80	33.84
80-90	9.33
90-100	12.61
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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	99	95	91	88	91	87	85	82	74	72	70	61	60	59	50	49	48	43
2	91	84	79	74	84	78	73	69	66	63	60	56	53	51	46	44	43	38
3	84	75	69	64	77	70	64	60	60	56	52	50	48	45	42	40	38	34
4	77	68	61	55	71	63	57	52	54	50	46	46	43	40	38	36	34	31
5	72	61	54	48	66	57	51	46	49	44	41	42	39	36	35	33	31	28
6	67	56	48	43	62	52	46	41	45	40	36	39	35	32	33	30	28	25
7	62	51	44	38	57	48	41	37	42	37	33	36	32	29	30	28	26	23
8	58	47	40	35	54	44	37	33	38	33	30	33	29	27	28	26	24	21
9	54	43	36	31	50	40	34	30	36	31	27	31	27	24	27	24	22	20
10	51	40	33	29	47	38	31	27	33	28	25	29	25	23	25	22	20	18

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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	5.7	6.4	6.7	7.4	8.7
	3H	6.3	7.0	7.3	8.0	9.3
	4H	6.4	7.0	7.4	8.0	9.4
	6H	6.4	7.0	7.5	8.0	9.4
	8H	6.4	7.0	7.4	8.0	9.3
	12H	6.4	6.9	7.4	7.9	9.3

### UGR Viewed Endwise

5.7	6.4	6.7	7.4	8.7
6.3	7.0	7.3	8.0	9.3
6.4	7.0	7.4	8.0	9.4
6.4	7.0	7.5	8.0	9.4
6.4	7.0	7.4	8.0	9.3
6.4	6.9	7.4	7.9	9.3

4H	2H	5.8	6.4	6.8	7.4	8.8
	3H	6.5	7.1	7.6	8.1	9.4
	4H	6.7	7.1	7.7	8.2	9.5
	6H	6.7	7.1	7.8	8.2	9.6
	8H	6.7	7.1	7.8	8.1	9.5
	12H	6.7	7.0	7.7	8.1	9.5

8H	4H	6.6	7.0	7.7	8.0	9.4
	6H	6.7	7.0	7.8	8.1	9.5
	8H	6.7	7.0	7.8	8.1	9.5
	12H	6.7	6.9	7.8	8.0	9.5

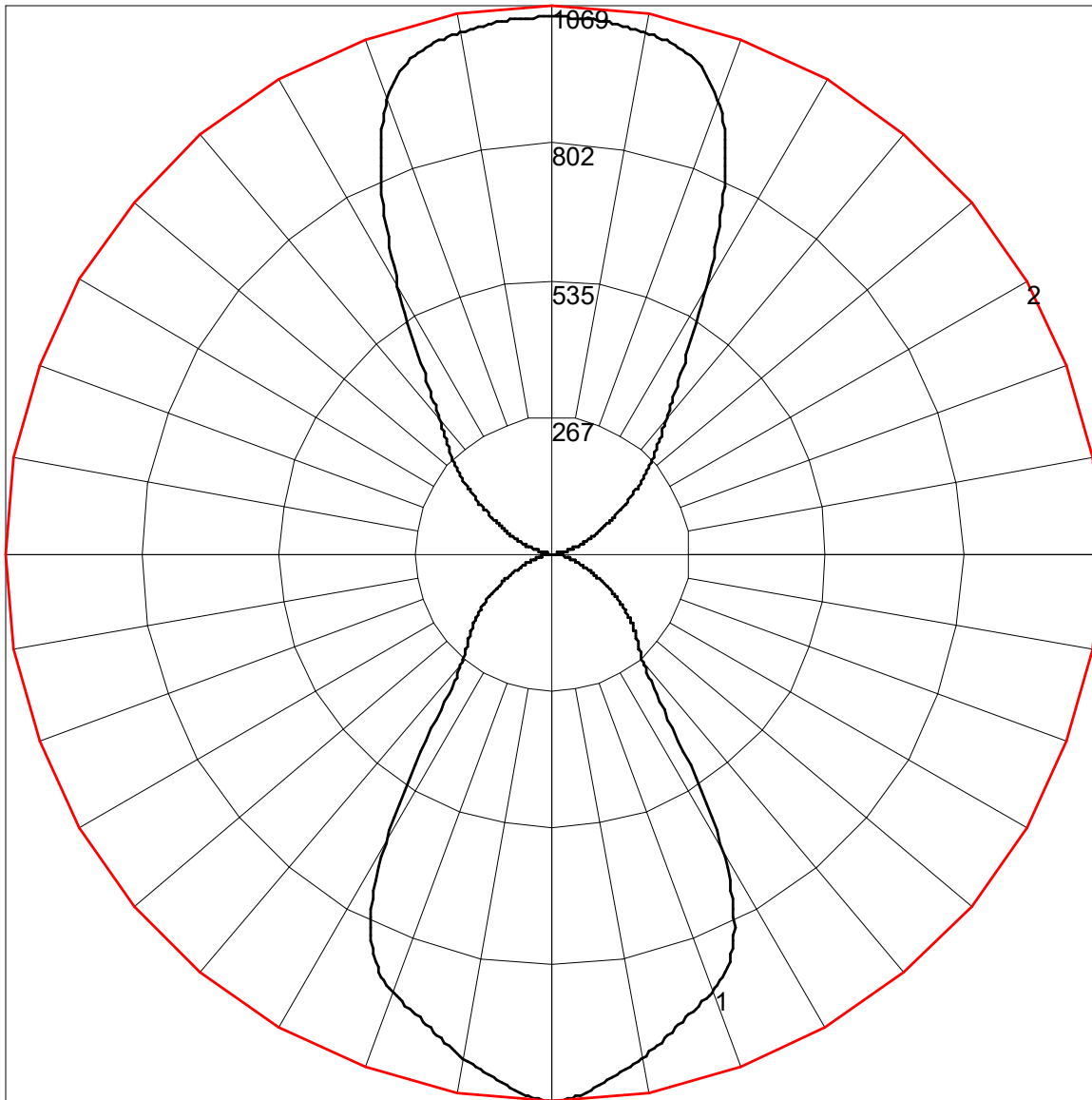
12H	4H	6.6	6.9	7.6	8.0	9.3
	6H	6.7	6.9	7.7	8.0	9.4
	8H	6.7	6.9	7.8	8.0	9.4

Maximum UGR = 9.6

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POLAR GRAPH



Maximum Candela = 1069 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.)