



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-OM-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 3-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-830-xxx-DIM-UNV-OM-CS-xx

[LUMINAIRE] Black formed aluminum housing, specular reflector, no lens

[MORE] enclosure

[LAMP] One white LED

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Healthcare, Office, Downlight

[_SEARCH_MOUNTING] Surface

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1943
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	19.1077
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.58
Spacing Criterion (90-270)	0.58
Spacing Criterion (Diagonal)	0.68
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 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	3506	3506	3506
55	1291	1291	1291
65	508	508	508
75	228	228	228
85	185	185	185

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CANDELA TABULATION

	<u>0</u>
0.0	3932.052
0.5	3937.931
1.0	3949.689
1.5	3956.547
2.0	3973.204
2.5	3980.063
3.0	3991.821
3.5	3994.761
4.0	3985.942
4.5	3938.910
5.0	3891.879
5.5	3841.907
6.0	3761.562
6.5	3681.216
7.0	3595.971
7.5	3499.947
8.0	3388.247
8.5	3273.607
9.0	3155.048
9.5	3039.428
10.0	2932.627
10.5	2838.563
11.0	2757.237
11.5	2687.670
12.0	2619.082
12.5	2551.473
13.0	2486.805
13.5	2426.055
14.0	2371.185
14.5	2322.193
15.0	2278.101
15.5	2235.969
16.0	2194.816
16.5	2151.703
17.0	2107.611
17.5	2063.519
18.0	2023.346
18.5	1988.072
19.0	1951.818
19.5	1914.585
20.0	1873.432
20.5	1829.340
21.0	1784.268
21.5	1738.216
22.0	1689.224
22.5	1642.193
23.0	1592.221
23.5	1541.270
24.0	1488.359
24.5	1435.449
25.0	1383.518
25.5	1331.587
26.0	1283.575
26.5	1237.523

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CANDELA TABULATION - (Cont.)

27.0	1194.411
27.5	1153.258
28.0	1116.025
28.5	1082.710
29.0	1051.356
29.5	1020.981
30.0	982.768
30.5	934.952
31.0	880.082
31.5	819.725
32.0	758.485
32.5	696.854
33.0	635.223
33.5	570.554
34.0	504.906
34.5	445.038
35.0	387.522
35.5	333.240
36.0	281.015
36.5	234.277
37.0	195.966
37.5	169.020
38.0	154.519
38.5	144.721
39.0	134.922
39.5	124.536
40.0	113.464
40.5	101.706
41.0	90.438
41.5	79.954
42.0	71.038
42.5	63.983
43.0	58.496
43.5	54.282
44.0	50.755
44.5	47.914
45.0	45.268
45.5	43.014
46.0	40.859
46.5	38.899
47.0	36.940
47.5	35.078
48.0	33.216
48.5	31.355
49.0	29.493
49.5	27.827
50.0	26.259
50.5	24.692
51.0	23.222
51.5	21.752
52.0	20.282
52.5	19.009
53.0	17.735
53.5	16.559
54.0	15.481
54.5	14.501

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CANDELA TABULATION - (Cont.)

55.0	13.522
55.5	12.738
56.0	11.856
56.5	11.170
57.0	10.484
57.5	9.798
58.0	9.210
58.5	8.622
59.0	8.133
59.5	7.643
60.0	7.153
60.5	6.663
61.0	6.271
61.5	5.879
62.0	5.585
62.5	5.291
63.0	4.899
63.5	4.703
64.0	4.409
64.5	4.115
65.0	3.919
65.5	3.625
66.0	3.429
66.5	3.233
67.0	3.037
67.5	2.842
68.0	2.744
68.5	2.548
69.0	2.352
69.5	2.254
70.0	2.156
70.5	1.960
71.0	1.862
71.5	1.764
72.0	1.666
72.5	1.568
73.0	1.470
73.5	1.372
74.0	1.274
74.5	1.176
75.0	1.078
75.5	1.078
76.0	0.980
76.5	0.882
77.0	0.882
77.5	0.784
78.0	0.784
78.5	0.686
79.0	0.686
79.5	0.588
80.0	0.588
80.5	0.490
81.0	0.490
81.5	0.490
82.0	0.392
82.5	0.392

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CANDELA TABULATION - (Cont.)

83.0	0.392
83.5	0.294
84.0	0.294
84.5	0.294
85.0	0.294
85.5	0.196
86.0	0.196
86.5	0.196
87.0	0.196
87.5	0.196
88.0	0.098
88.5	0.098
89.0	0.098
89.5	0.098
90.0	0.098
90.5	0.000
91.0	0.000
91.5	0.000
92.0	0.000
92.5	0.000
93.0	0.000
93.5	0.000
94.0	0.000
94.5	0.000
95.0	0.000
95.5	0.000
96.0	0.000
96.5	0.000
97.0	0.000
97.5	0.000
98.0	0.000
98.5	0.000
99.0	0.000
99.5	0.000
100.0	0.000
100.5	0.000
101.0	0.000
101.5	0.000
102.0	0.000
102.5	0.000
103.0	0.000
103.5	0.000
104.0	0.000
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-OM-CS-XX_.IES****CANDELA TABULATION - (Cont.)**

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
117.5	0.000
118.0	0.000
118.5	0.000
119.0	0.000
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120.0	0.000
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122.0	0.000
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125.5	0.000
126.0	0.000
126.5	0.000
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134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

CANDELA TABULATION - (Cont.)

139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
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147.0	0.000
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148.0	0.000
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149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
152.0	0.000
152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
155.0	0.000
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156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
158.0	0.000
158.5	0.000
159.0	0.000
159.5	0.000
160.0	0.000
160.5	0.000
161.0	0.000
161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

CANDELA TABULATION - (Cont.)

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	980.58	N.A.	50.50
0-30	1615.76	N.A.	83.20
0-40	1884.54	N.A.	97.00
0-60	1937.36	N.A.	99.70
0-80	1942.68	N.A.	100.00
0-90	1942.98	N.A.	100.00
10-90	1604.18	N.A.	82.60
20-40	903.96	N.A.	46.50
20-50	943.80	N.A.	48.60
40-70	56.88	N.A.	2.90
60-80	5.32	N.A.	0.30
70-80	1.26	N.A.	0.10
80-90	0.30	N.A.	0.00
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1942.98	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	338.80
10-20	641.78
20-30	635.18
30-40	268.78
40-50	39.84
50-60	12.98
60-70	4.06
70-80	1.26
80-90	0.30
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84
4	100	93	88	84	98	92	88	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	62
10	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	63	60	59

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UGR TABLE - CORRECTED

Reflectances

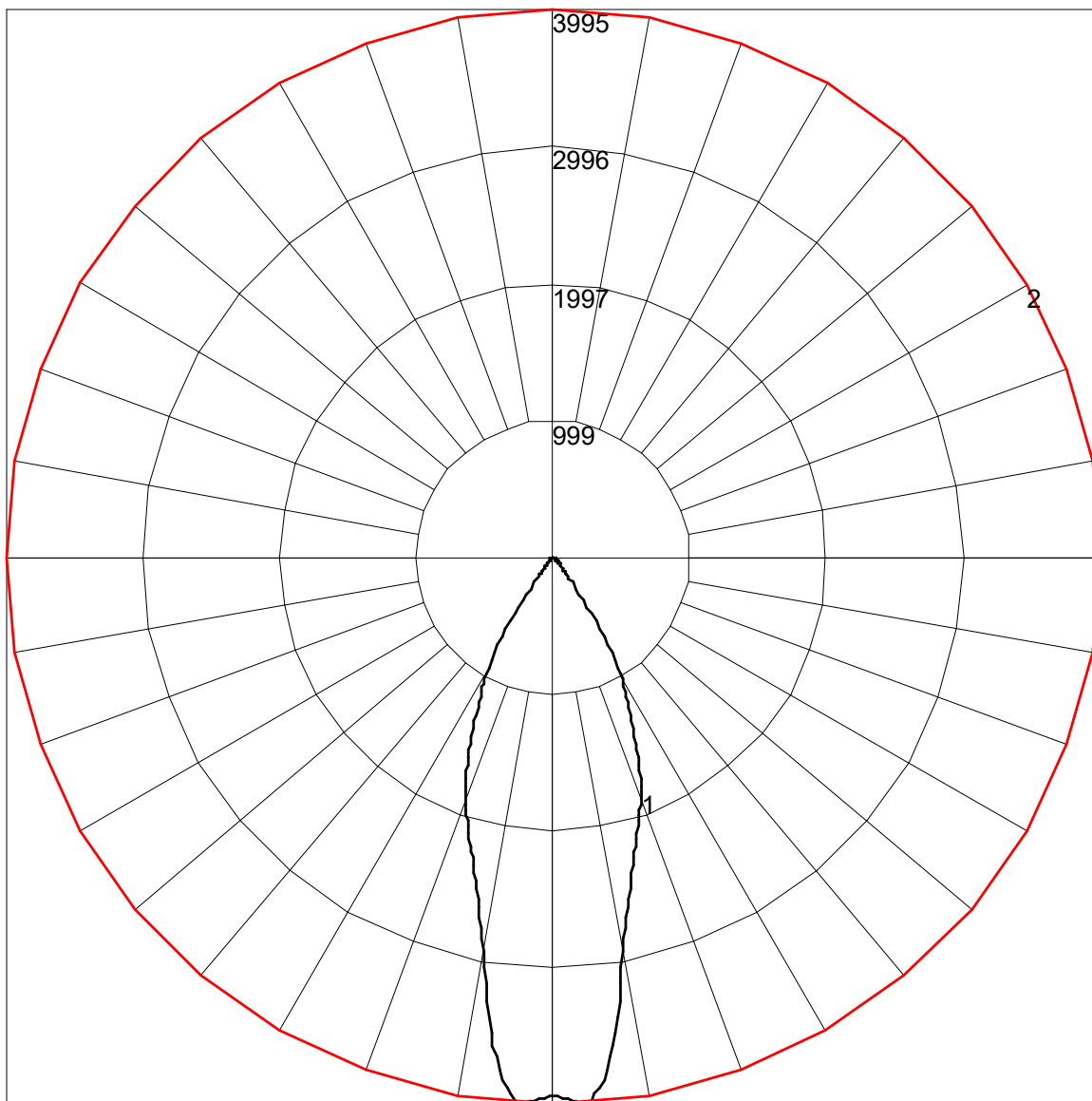
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

X=2H	Y=2H	2.4	2.4	2.4	2.4	2.4	UGR Viewed Endwise	2.4	2.4	2.4	2.4	2.4
	3H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	4H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	6H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	8H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	12H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
4H	2H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	3H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	4H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	6H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	8H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	12H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
8H	4H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	6H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	8H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	12H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
12H	4H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	6H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	8H	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

Maximum UGR = 2.4

POLAR GRAPH



Maximum Candela = 3994.761 Located At Horizontal Angle = 0, Vertical Angle = 3.5

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

2 - Horizontal Cone Through Vertical Angle (3.5) (Through Max. Cd.)