



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-840-XXX-DIM-UNV-OM-SG-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 2-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-840-xxx-DIM-UNV-OM-SG-xx

[LUMINAIRE] 8" DIA. SURFACE CYLINDER

[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	1843
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	96
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	3325	3325	3325
55	1224	1224	1224
65	482	482	482
75	216	216	216
85	175	175	175

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CANDELA TABULATION

	<u>0</u>
0.0	3728.880
0.5	3734.455
1.0	3745.605
1.5	3752.110
2.0	3767.906
2.5	3774.410
3.0	3785.561
3.5	3788.348
4.0	3779.986
4.5	3735.384
5.0	3690.782
5.5	3643.393
6.0	3567.199
6.5	3491.004
7.0	3410.164
7.5	3319.102
8.0	3213.174
8.5	3104.457
9.0	2992.024
9.5	2882.378
10.0	2781.096
10.5	2691.892
11.0	2614.769
11.5	2548.796
12.0	2483.752
12.5	2419.637
13.0	2358.310
13.5	2300.699
14.0	2248.664
14.5	2202.204
15.0	2160.390
15.5	2120.434
16.0	2081.408
16.5	2040.523
17.0	1998.709
17.5	1956.895
18.0	1918.798
18.5	1885.347
19.0	1850.966
19.5	1815.657
20.0	1776.630
20.5	1734.816
21.0	1692.073
21.5	1648.401
22.0	1601.941
22.5	1557.339
23.0	1509.950
23.5	1461.632
24.0	1411.455
24.5	1361.278
25.0	1312.030
25.5	1262.783
26.0	1217.252
26.5	1173.580

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CANDELA TABULATION - (Cont.)

27.0	1132.695
27.5	1093.668
28.0	1058.359
28.5	1026.766
29.0	997.032
29.5	968.226
30.0	931.988
30.5	886.643
31.0	834.607
31.5	777.369
32.0	719.294
32.5	660.847
33.0	602.400
33.5	541.073
34.0	478.817
34.5	422.043
35.0	367.499
35.5	316.021
36.0	266.495
36.5	222.172
37.0	185.840
37.5	160.287
38.0	146.535
38.5	137.243
39.0	127.951
39.5	118.101
40.0	107.601
40.5	96.451
41.0	85.765
41.5	75.823
42.0	67.367
42.5	60.677
43.0	55.473
43.5	51.478
44.0	48.133
44.5	45.438
45.0	42.929
45.5	40.792
46.0	38.748
46.5	36.889
47.0	35.031
47.5	33.265
48.0	31.500
48.5	29.734
49.0	27.969
49.5	26.389
50.0	24.903
50.5	23.416
51.0	22.022
51.5	20.628
52.0	19.234
52.5	18.026
53.0	16.819
53.5	15.703
54.0	14.681
54.5	13.752

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CANDELA TABULATION - (Cont.)

55.0	12.823
55.5	12.080
56.0	11.243
56.5	10.593
57.0	9.942
57.5	9.292
58.0	8.734
58.5	8.177
59.0	7.712
59.5	7.248
60.0	6.783
60.5	6.319
61.0	5.947
61.5	5.575
62.0	5.296
62.5	5.018
63.0	4.646
63.5	4.460
64.0	4.181
64.5	3.903
65.0	3.717
65.5	3.438
66.0	3.252
66.5	3.066
67.0	2.881
67.5	2.695
68.0	2.602
68.5	2.416
69.0	2.230
69.5	2.137
70.0	2.044
70.5	1.858
71.0	1.765
71.5	1.673
72.0	1.580
72.5	1.487
73.0	1.394
73.5	1.301
74.0	1.208
74.5	1.115
75.0	1.022
75.5	1.022
76.0	0.929
76.5	0.836
77.0	0.836
77.5	0.743
78.0	0.743
78.5	0.650
79.0	0.650
79.5	0.558
80.0	0.558
80.5	0.465
81.0	0.465
81.5	0.465
82.0	0.372
82.5	0.372

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CANDELA TABULATION - (Cont.)

83.0	0.372
83.5	0.279
84.0	0.279
84.5	0.279
85.0	0.279
85.5	0.186
86.0	0.186
86.5	0.186
87.0	0.186
87.5	0.186
88.0	0.093
88.5	0.093
89.0	0.093
89.5	0.093
90.0	0.093
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

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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
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
133.0	0.000
133.5	0.000
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

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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
144.0	0.000
144.5	0.000
145.0	0.000
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
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
155.5	0.000
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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	929.91	N.A.	50.50
0-30	1532.27	N.A.	83.20
0-40	1787.16	N.A.	97.00
0-60	1837.25	N.A.	99.70
0-80	1842.3	N.A.	100.00
0-90	1842.58	N.A.	100.00
10-90	1521.29	N.A.	82.60
20-40	857.25	N.A.	46.50
20-50	895.04	N.A.	48.60
40-70	53.94	N.A.	2.90
60-80	5.04	N.A.	0.30
70-80	1.19	N.A.	0.10
80-90	0.29	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	1842.59	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	321.29
10-20	608.62
20-30	602.36
30-40	254.89
40-50	37.78
50-60	12.31
60-70	3.85
70-80	1.19
80-90	0.29
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	102	97	93	90	95	91	89	92	90	87	90	88	86	84
4	100	93	88	84	98	92	87	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	79	74	70	86	79	74	70	78	73	70	77	72	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	61
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

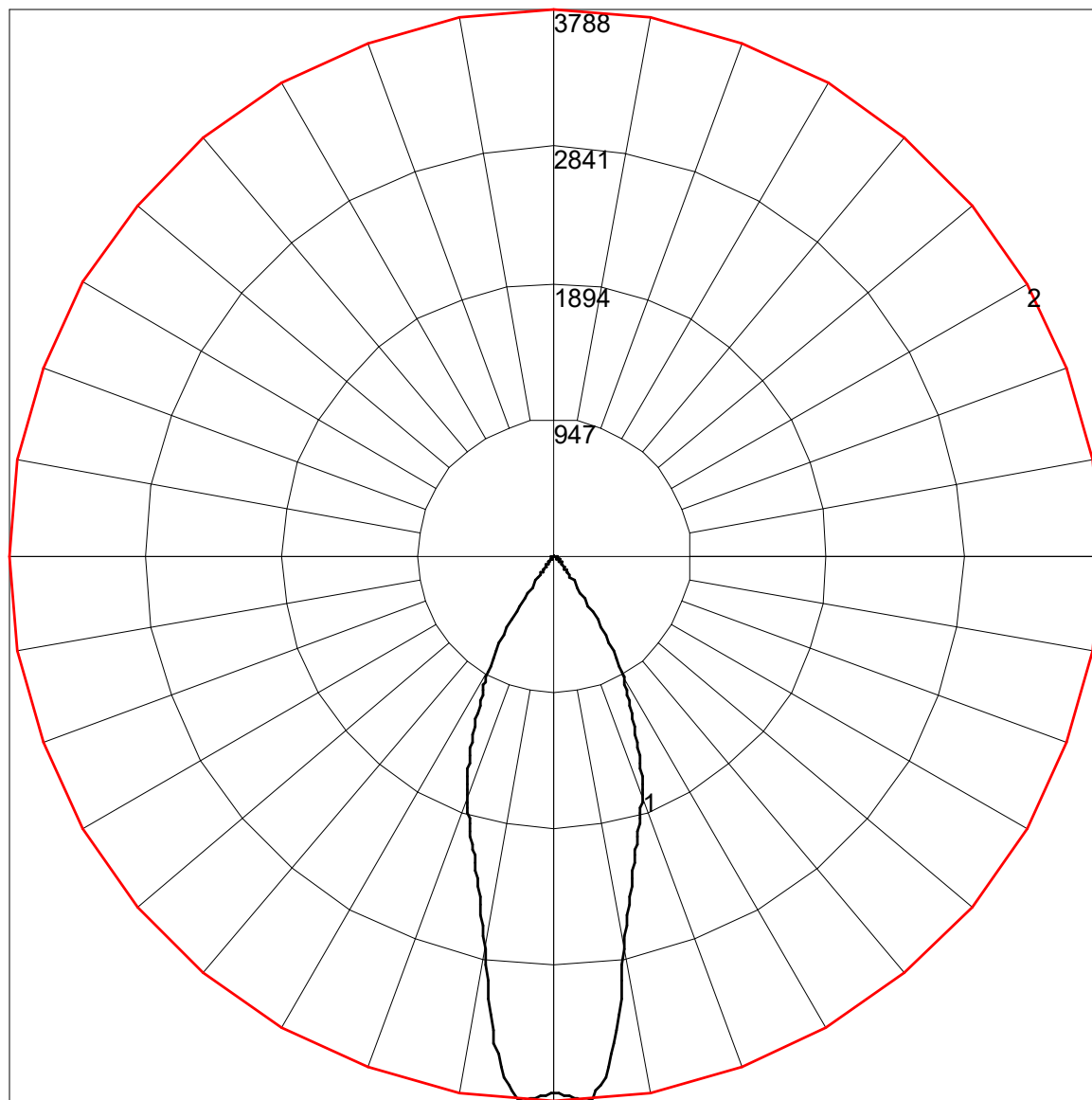
X=2H	Y=2H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	3H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	12H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

UGR Viewed Endwise

4H	2H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	3H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	12H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
8H	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	12H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
12H	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

Maximum UGR = 2.2

POLAR GRAPH



Maximum Candela = 3788.348 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.)