



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L40-840-XXX-DIM-UNV-RW-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.12

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 1-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L40-840-xxx-DIM-UNV-RW-CS-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	2859
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	78
Total Luminaire Watts	36.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.04
Spacing Criterion (90-270)	1.04
Spacing Criterion (Diagonal)	0.94
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.48 ft (Diameter)
Luminous Width (90-270)	0.48 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	38606	38606	38606
55	32195	32195	32195
65	22714	22714	22714
75	13914	13914	13914
85	10973	10973	10973

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CANDELA TABULATION

	<u>0</u>
0.0	2115.067
0.5	2113.088
1.0	2111.110
1.5	2109.131
2.0	2105.174
2.5	2099.238
3.0	2093.303
3.5	2085.389
4.0	2077.474
4.5	2071.539
5.0	2063.624
5.5	2055.710
6.0	2047.796
6.5	2039.882
7.0	2031.968
7.5	2024.054
8.0	2014.161
8.5	2006.247
9.0	1998.332
9.5	1988.440
10.0	1980.526
10.5	1970.831
11.0	1961.334
11.5	1951.837
12.0	1942.340
12.5	1933.040
13.0	1923.543
13.5	1913.651
14.0	1903.956
14.5	1894.459
15.0	1885.555
15.5	1876.454
16.0	1867.550
16.5	1858.845
17.0	1850.733
17.5	1842.621
18.0	1834.707
18.5	1827.188
19.0	1819.670
19.5	1811.953
20.0	1804.039
20.5	1795.531
21.0	1785.837
21.5	1774.757
22.0	1762.292
22.5	1748.442
23.0	1733.405
23.5	1716.390
24.0	1697.791
24.5	1677.412
25.0	1654.857
25.5	1630.521
26.0	1603.414
26.5	1573.736

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CANDELA TABULATION - (Cont.)

27.0	1542.080
27.5	1507.653
28.0	1471.050
28.5	1431.281
29.0	1389.336
29.5	1343.829
30.0	1295.553
30.5	1244.506
31.0	1191.481
31.5	1137.269
32.0	1082.067
32.5	1027.262
33.0	973.049
33.5	920.618
34.0	870.363
34.5	823.076
35.0	779.943
35.5	740.372
36.0	705.550
36.5	674.685
37.0	647.578
37.5	624.429
38.0	604.050
38.5	586.046
39.0	570.415
39.5	556.565
40.0	543.903
40.5	532.427
41.0	521.743
41.5	512.048
42.0	503.144
42.5	494.637
43.0	486.525
43.5	478.808
44.0	471.488
44.5	464.563
45.0	457.440
45.5	450.713
46.0	443.788
46.5	437.061
47.0	430.136
47.5	423.211
48.0	416.088
48.5	408.966
49.0	402.239
49.5	395.314
50.0	387.993
50.5	380.475
51.0	372.758
51.5	365.042
52.0	357.326
52.5	349.411
53.0	341.695
53.5	334.177
54.0	325.867
54.5	317.557

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55.0	309.445
55.5	301.135
56.0	293.023
56.5	284.911
57.0	276.799
57.5	268.687
58.0	260.970
58.5	253.056
59.0	245.340
59.5	237.821
60.0	230.303
60.5	222.784
61.0	215.464
61.5	208.341
62.0	201.218
62.5	194.293
63.0	187.368
63.5	180.443
64.0	173.914
64.5	167.187
65.0	160.856
65.5	154.327
66.0	148.193
66.5	142.060
67.0	136.124
67.5	130.188
68.0	124.451
68.5	118.713
69.0	113.371
69.5	107.831
70.0	102.687
70.5	97.542
71.0	92.596
71.5	87.847
72.0	83.099
72.5	78.746
73.0	74.591
73.5	70.832
74.0	67.073
74.5	63.709
75.0	60.346
75.5	57.378
76.0	54.410
76.5	51.838
77.0	49.464
77.5	47.089
78.0	44.715
78.5	42.341
79.0	40.165
79.5	37.988
80.0	35.812
80.5	33.635
81.0	31.459
81.5	29.480
82.0	27.304
82.5	25.325

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

83.0	23.347
83.5	21.566
84.0	19.588
84.5	17.807
85.0	16.026
85.5	14.246
86.0	12.465
86.5	10.684
87.0	9.101
87.5	7.321
88.0	5.936
88.5	4.749
89.0	3.759
89.5	2.770
90.0	1.979
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-L40-840-XXX-DIM-UNV-RW-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
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
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131.0	0.000
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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

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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 8CR-TL-L40-840-XXX-DIM-UNV-RW-CS-XX_.IES

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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	726.78	N.A.	25.40
0-30	1469.27	N.A.	51.40
0-40	1982.97	N.A.	69.40
0-60	2613.37	N.A.	91.40
0-80	2840.95	N.A.	99.40
0-90	2859.2	N.A.	100.00
10-90	2664.91	N.A.	93.20
20-40	1256.19	N.A.	43.90
20-50	1610.62	N.A.	56.30
40-70	791.02	N.A.	27.70
60-80	227.58	N.A.	8.00
70-80	66.96	N.A.	2.30
80-90	18.25	N.A.	0.60
90-110	0.05	N.A.	0.00
90-120	0.05	N.A.	0.00
90-130	0.05	N.A.	0.00
90-150	0.05	N.A.	0.00
90-180	0.05	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2859.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	194.29
10-20	532.49
20-30	742.49
30-40	513.70
40-50	354.43
50-60	275.98
60-70	160.62
70-80	66.96
80-90	18.25
90-100	0.05
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	111	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	66	64
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	58
6	79	68	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38

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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

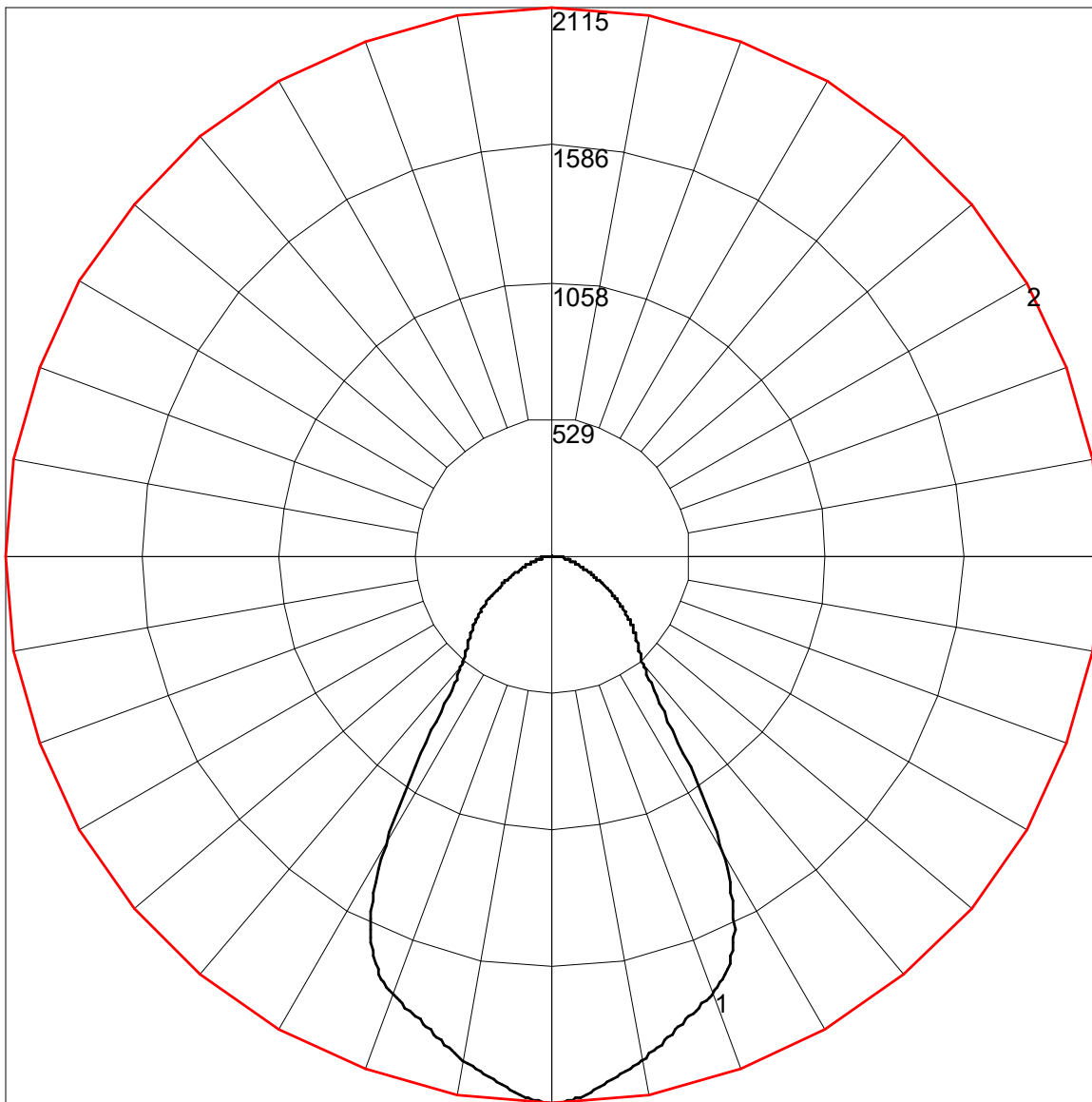
X=2H	Y=2H	21.5	22.9	21.9	23.2	23.5	21.5	22.9	21.9	23.2	23.5
	3H	22.5	23.7	22.9	24.0	24.4	22.5	23.7	22.9	24.0	24.4
	4H	22.8	23.9	23.2	24.2	24.6	22.8	23.9	23.2	24.2	24.6
	6H	22.9	24.0	23.4	24.3	24.7	22.9	24.0	23.4	24.3	24.7
	8H	23.0	24.0	23.4	24.4	24.8	23.0	24.0	23.4	24.4	24.8
	12H	23.0	23.9	23.5	24.3	24.8	23.0	23.9	23.5	24.3	24.8

UGR Viewed Endwise

4H	2H	21.9	23.0	22.3	23.3	23.7	21.9	23.0	22.3	23.3	23.7
	3H	23.0	23.9	23.4	24.3	24.7	23.0	23.9	23.4	24.3	24.7
	4H	23.4	24.2	23.8	24.6	25.0	23.4	24.2	23.8	24.6	25.0
	6H	23.6	24.3	24.1	24.8	25.2	23.6	24.3	24.1	24.8	25.2
	8H	23.7	24.3	24.2	24.8	25.3	23.7	24.3	24.2	24.8	25.3
	12H	23.8	24.3	24.2	24.8	25.3	23.8	24.3	24.2	24.8	25.3
8H	4H	23.4	24.1	23.9	24.5	25.0	23.4	24.1	23.9	24.5	25.0
	6H	23.8	24.3	24.3	24.8	25.3	23.8	24.3	24.3	24.8	25.3
	8H	23.9	24.4	24.4	24.9	25.4	23.9	24.4	24.4	24.9	25.4
	12H	24.0	24.4	24.5	24.9	25.5	24.0	24.4	24.5	24.9	25.5
12H	4H	23.4	24.0	23.9	24.5	25.0	23.4	24.0	23.9	24.5	25.0
	6H	23.8	24.3	24.3	24.7	25.3	23.8	24.3	24.3	24.7	25.3
	8H	23.9	24.4	24.5	24.9	25.4	23.9	24.4	24.5	24.9	25.4

Maximum UGR = 25.5

POLAR GRAPH



Maximum Candela = 2115.067 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.)