



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-840-XXX-DIM-UNV-RM-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.14

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 1-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-840-xxx-DIM-UNV-RM-WH-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	1800
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	19.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.58
Spacing Criterion (90-270)	0.58
Spacing Criterion (Diagonal)	0.56
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	6470	6470	6470
55	4350	4350	4350
65	3237	3237	3237
75	2236	2236	2236
85	1867	1867	1867

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CANDELA TABULATION

	<u>0</u>
0.0	4356.130
0.5	4354.110
1.0	4348.050
1.5	4337.950
2.0	4323.810
2.5	4306.640
3.0	4285.430
3.5	4261.190
4.0	4234.930
4.5	4204.630
5.0	4172.310
5.5	4136.960
6.0	4097.570
6.5	4054.140
7.0	4007.680
7.5	3957.180
8.0	3902.640
8.5	3844.060
9.0	3781.440
9.5	3713.770
10.0	3643.070
10.5	3567.320
11.0	3486.520
11.5	3401.680
12.0	3312.800
12.5	3217.860
13.0	3120.900
13.5	3018.890
14.0	2913.850
14.5	2806.790
15.0	2695.690
15.5	2584.590
16.0	2471.470
16.5	2358.350
17.0	2247.250
17.5	2141.200
18.0	2032.120
18.5	1924.050
19.0	1818.000
19.5	1717.000
20.0	1621.050
20.5	1528.130
21.0	1437.230
21.5	1350.370
22.0	1266.540
22.5	1187.760
23.0	1113.020
23.5	1042.320
24.0	975.862
24.5	913.545
25.0	854.864
25.5	799.819
26.0	748.410
26.5	700.132

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CANDELA TABULATION - (Cont.)

27.0	655.187
27.5	613.171
28.0	573.781
28.5	537.219
29.0	502.879
29.5	470.761
30.0	440.562
30.5	412.383
31.0	386.022
31.5	361.277
32.0	338.148
32.5	316.433
33.0	296.031
33.5	276.942
34.0	258.964
34.5	242.299
35.0	226.745
35.5	212.201
36.0	198.667
36.5	186.143
37.0	174.528
37.5	163.822
38.0	153.924
38.5	144.834
39.0	136.451
39.5	128.775
40.0	121.806
40.5	115.443
41.0	109.585
41.5	104.232
42.0	99.283
42.5	94.738
43.0	90.496
43.5	86.658
44.0	83.022
44.5	79.790
45.0	76.659
45.5	73.831
46.0	71.104
46.5	68.579
47.0	66.256
47.5	64.135
48.0	62.115
48.5	60.196
49.0	58.378
49.5	56.560
50.0	54.944
50.5	53.429
51.0	51.914
51.5	50.500
52.0	49.187
52.5	47.773
53.0	46.561
53.5	45.349
54.0	44.137
54.5	42.925

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CANDELA TABULATION - (Cont.)

55.0	41.814
55.5	40.703
56.0	39.693
56.5	38.582
57.0	37.572
57.5	36.562
58.0	35.552
58.5	34.542
59.0	33.633
59.5	32.623
60.0	31.714
60.5	30.805
61.0	29.896
61.5	28.987
62.0	28.078
62.5	27.169
63.0	26.361
63.5	25.452
64.0	24.644
64.5	23.735
65.0	22.927
65.5	22.119
66.0	21.311
66.5	20.503
67.0	19.695
67.5	18.988
68.0	18.180
68.5	17.473
69.0	16.766
69.5	15.958
70.0	15.352
70.5	14.645
71.0	14.039
71.5	13.332
72.0	12.726
72.5	12.120
73.0	11.615
73.5	11.110
74.0	10.605
74.5	10.100
75.0	9.696
75.5	9.191
76.0	8.787
76.5	8.484
77.0	8.080
77.5	7.676
78.0	7.373
78.5	6.969
79.0	6.666
79.5	6.363
80.0	5.959
80.5	5.656
81.0	5.252
81.5	4.949
82.0	4.646
82.5	4.343

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CANDELA TABULATION - (Cont.)

83.0	4.040
83.5	3.636
84.0	3.333
84.5	3.030
85.0	2.727
85.5	2.424
86.0	2.222
86.5	1.919
87.0	1.616
87.5	1.313
88.0	1.010
88.5	0.808
89.0	0.707
89.5	0.505
90.0	0.404
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

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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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1107.42	N.A.	61.50
0-30	1514.17	N.A.	84.10
0-40	1663.87	N.A.	92.40
0-60	1763.23	N.A.	98.00
0-80	1796.63	N.A.	99.80
0-90	1799.75	N.A.	100.00
10-90	1418.02	N.A.	78.80
20-40	556.45	N.A.	30.90
20-50	618.05	N.A.	34.30
40-70	122.21	N.A.	6.80
60-80	33.40	N.A.	1.90
70-80	10.55	N.A.	0.60
80-90	3.12	N.A.	0.20
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1799.76	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	381.73
10-20	725.69
20-30	406.75
30-40	149.71
40-50	61.60
50-60	37.76
60-70	22.85
70-80	10.55
80-90	3.12
90-100	0.01
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	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	94
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	94	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
6	92	85	80	76	91	84	79	76	83	78	75	81	77	75	80	77	74	73
7	89	81	76	72	88	80	75	72	79	75	72	78	74	71	77	73	71	70
8	86	77	72	69	85	77	72	69	76	72	68	75	71	68	74	71	68	67
9	83	74	69	66	82	74	69	66	73	69	66	72	68	65	71	68	65	64
10	80	71	66	63	79	71	66	63	70	66	63	70	66	63	69	65	63	62

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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

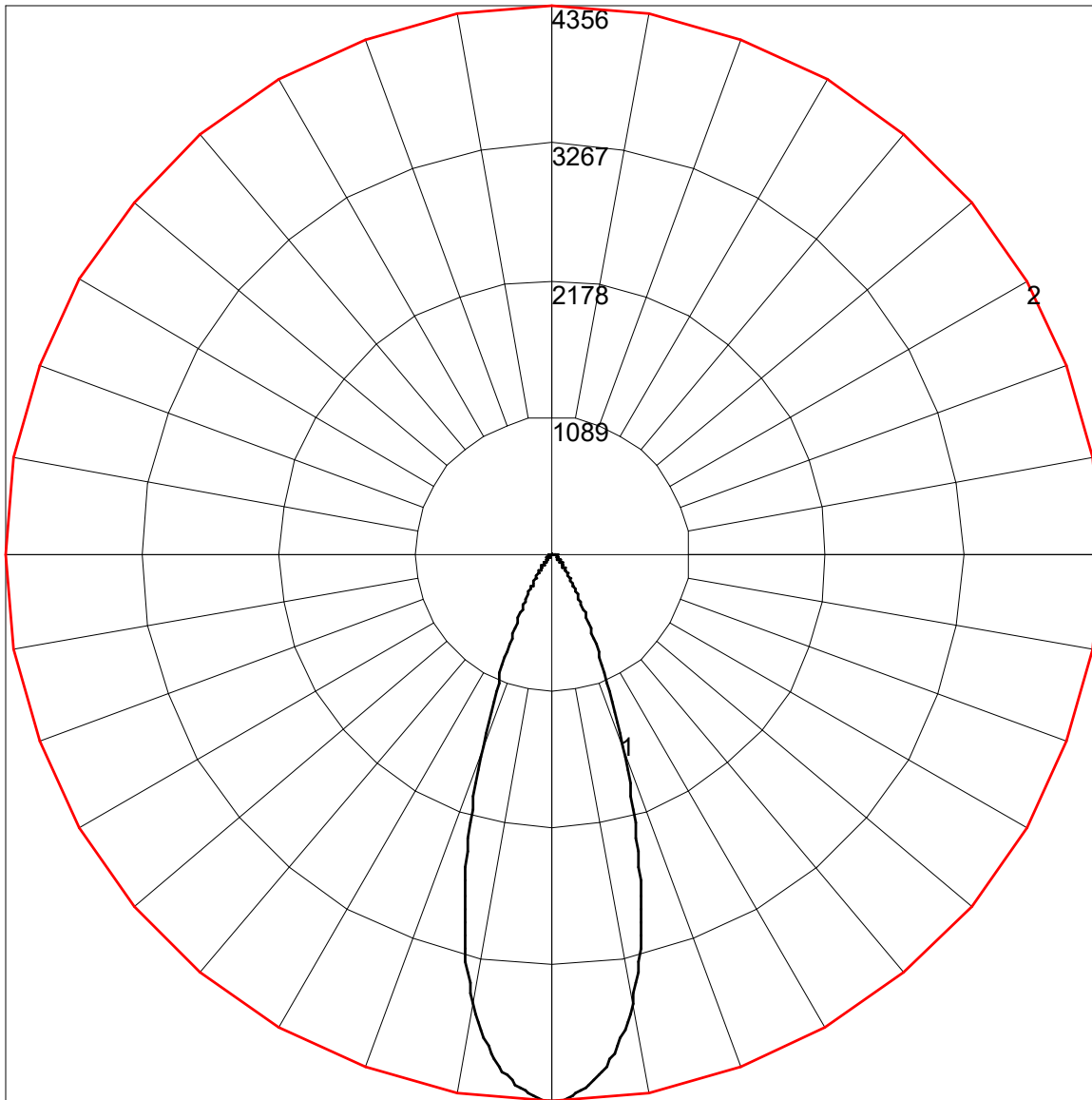
X=2H	Y=2H	9.7	10.7	10.1	11.0	11.3	9.7	10.7	10.1	11.0	11.3
	3H	10.8	11.7	11.2	12.0	12.4	10.8	11.7	11.2	12.0	12.4
	4H	11.1	11.9	11.5	12.3	12.7	11.1	11.9	11.5	12.3	12.7
	6H	11.3	12.1	11.8	12.5	12.9	11.3	12.1	11.8	12.5	12.9
	8H	11.4	12.1	11.9	12.5	12.9	11.4	12.1	11.9	12.5	12.9
	12H	11.5	12.1	11.9	12.5	12.9	11.5	12.1	11.9	12.5	12.9

UGR Viewed Endwise

4H	2H	10.0	10.8	10.4	11.2	11.6	10.0	10.8	10.4	11.2	11.6
	3H	11.3	11.9	11.7	12.4	12.8	11.3	11.9	11.7	12.4	12.8
	4H	11.7	12.3	12.1	12.7	13.1	11.7	12.3	12.1	12.7	13.1
	6H	12.0	12.5	12.5	13.0	13.5	12.0	12.5	12.5	13.0	13.5
	8H	12.2	12.6	12.6	13.1	13.5	12.2	12.6	12.6	13.1	13.5
	12H	12.2	12.6	12.7	13.1	13.6	12.2	12.6	12.7	13.1	13.6
8H	4H	11.8	12.2	12.3	12.7	13.2	11.8	12.2	12.3	12.7	13.2
	6H	12.2	12.6	12.8	13.1	13.6	12.2	12.6	12.8	13.1	13.6
	8H	12.4	12.7	13.0	13.3	13.8	12.4	12.7	13.0	13.3	13.8
	12H	12.6	12.8	13.1	13.3	13.9	12.6	12.8	13.1	13.3	13.9
12H	4H	11.8	12.2	12.3	12.6	13.1	11.8	12.2	12.3	12.6	13.1
	6H	12.2	12.6	12.8	13.0	13.6	12.2	12.6	12.8	13.0	13.6
	8H	12.5	12.7	13.0	13.2	13.8	12.5	12.7	13.0	13.2	13.8

Maximum UGR = 13.9

POLAR GRAPH



Maximum Candela = 4356.13 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.)