



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-840-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] 2-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-840-xxx-DIM-UNV-OM-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	2003
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
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	3614	3614	3614
55	1331	1331	1331
65	524	524	524
75	235	235	235
85	190	190	190

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CANDELA TABULATION

	<u>0</u>
0.0	4053.130
0.5	4059.190
1.0	4071.310
1.5	4078.380
2.0	4095.550
2.5	4102.620
3.0	4114.740
3.5	4117.770
4.0	4108.680
4.5	4060.200
5.0	4011.720
5.5	3960.210
6.0	3877.390
6.5	3794.570
7.0	3706.700
7.5	3607.720
8.0	3492.580
8.5	3374.410
9.0	3252.200
9.5	3133.020
10.0	3022.930
10.5	2925.970
11.0	2842.140
11.5	2770.430
12.0	2699.730
12.5	2630.040
13.0	2563.380
13.5	2500.760
14.0	2444.200
14.5	2393.700
15.0	2348.250
15.5	2304.820
16.0	2262.400
16.5	2217.960
17.0	2172.510
17.5	2127.060
18.0	2085.650
18.5	2049.290
19.0	2011.920
19.5	1973.540
20.0	1931.120
20.5	1885.670
21.0	1839.210
21.5	1791.740
22.0	1741.240
22.5	1692.760
23.0	1641.250
23.5	1588.730
24.0	1534.190
24.5	1479.650
25.0	1426.120
25.5	1372.590
26.0	1323.100
26.5	1275.630

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CANDELA TABULATION - (Cont.)

27.0	1231.190
27.5	1188.770
28.0	1150.390
28.5	1116.050
29.0	1083.730
29.5	1052.420
30.0	1013.030
30.5	963.742
31.0	907.182
31.5	844.966
32.0	781.841
32.5	718.312
33.0	654.783
33.5	588.123
34.0	520.453
34.5	458.742
35.0	399.455
35.5	343.501
36.0	289.668
36.5	241.491
37.0	202.000
37.5	174.225
38.0	159.277
38.5	149.177
39.0	139.077
39.5	128.371
40.0	116.958
40.5	104.838
41.0	93.223
41.5	82.416
42.0	73.225
42.5	65.953
43.0	60.297
43.5	55.954
44.0	52.318
44.5	49.389
45.0	46.662
45.5	44.339
46.0	42.117
46.5	40.097
47.0	38.077
47.5	36.158
48.0	34.239
48.5	32.320
49.0	30.401
49.5	28.684
50.0	27.068
50.5	25.452
51.0	23.937
51.5	22.422
52.0	20.907
52.5	19.594
53.0	18.281
53.5	17.069
54.0	15.958
54.5	14.948

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CANDELA TABULATION - (Cont.)

55.0	13.938
55.5	13.130
56.0	12.221
56.5	11.514
57.0	10.807
57.5	10.100
58.0	9.494
58.5	8.888
59.0	8.383
59.5	7.878
60.0	7.373
60.5	6.868
61.0	6.464
61.5	6.060
62.0	5.757
62.5	5.454
63.0	5.050
63.5	4.848
64.0	4.545
64.5	4.242
65.0	4.040
65.5	3.737
66.0	3.535
66.5	3.333
67.0	3.131
67.5	2.929
68.0	2.828
68.5	2.626
69.0	2.424
69.5	2.323
70.0	2.222
70.5	2.020
71.0	1.919
71.5	1.818
72.0	1.717
72.5	1.616
73.0	1.515
73.5	1.414
74.0	1.313
74.5	1.212
75.0	1.111
75.5	1.111
76.0	1.010
76.5	0.909
77.0	0.909
77.5	0.808
78.0	0.808
78.5	0.707
79.0	0.707
79.5	0.606
80.0	0.606
80.5	0.505
81.0	0.505
81.5	0.505
82.0	0.404
82.5	0.404

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CR-TL-L20-840-XXX-DIM-UNV-OM-CS-XX_.IES****CANDELA TABULATION - (Cont.)**

83.0	0.404
83.5	0.303
84.0	0.303
84.5	0.303
85.0	0.303
85.5	0.202
86.0	0.202
86.5	0.202
87.0	0.202
87.5	0.202
88.0	0.101
88.5	0.101
89.0	0.101
89.5	0.101
90.0	0.101
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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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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Zone	Lumens	%Lamp	%Fixt
0-20	1010.77	N.A.	50.50
0-30	1665.51	N.A.	83.20
0-40	1942.57	N.A.	97.00
0-60	1997.02	N.A.	99.70
0-80	2002.5	N.A.	100.00
0-90	2002.81	N.A.	100.00
10-90	1653.58	N.A.	82.60
20-40	931.79	N.A.	46.50
20-50	972.87	N.A.	48.60
40-70	58.63	N.A.	2.90
60-80	5.48	N.A.	0.30
70-80	1.30	N.A.	0.10
80-90	0.31	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	2002.81	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	349.23
10-20	661.55
20-30	654.74
30-40	277.06
40-50	41.07
50-60	13.38
60-70	4.18
70-80	1.30
80-90	0.31
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

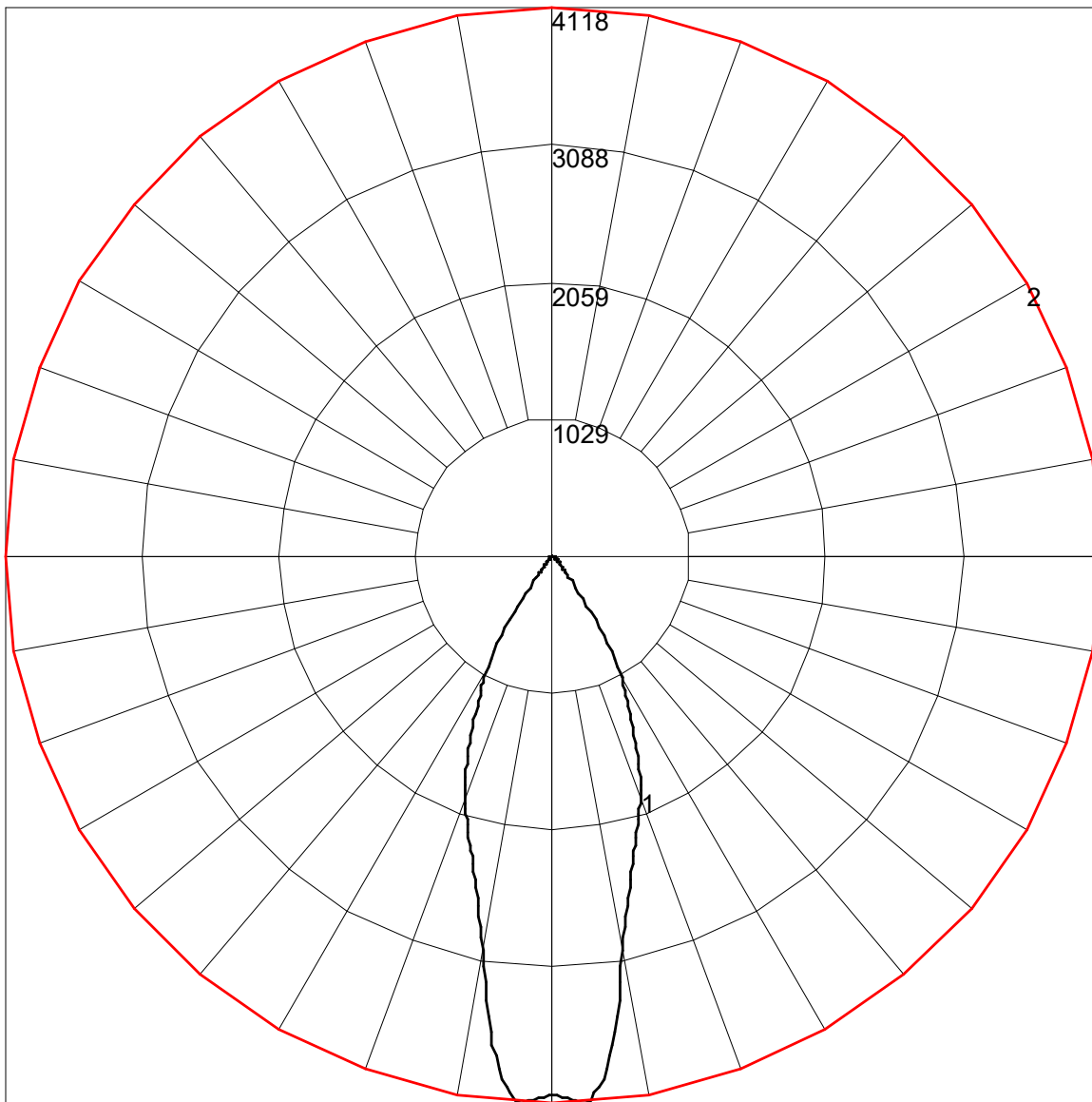
X=2H	Y=2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

UGR Viewed Endwise

4H	2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
12H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Maximum UGR = 2.5

POLAR GRAPH



Maximum Candela = 4117.77 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.)