



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L10-840-XXX-DIM-UNV-LM-CS-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12326812.09

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 1-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L10-840-xxx-DIM-UNV-LM-CS-xx

[LUMINAIRE] 8" DIA. SURFACE CYLINDER

[LAMP] One white LED

[\_SEARCH\_SOURCE TYPE] 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	919
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	8.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.60
Spacing Criterion (90-270)	0.60
Spacing Criterion (Diagonal)	0.56
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.46 ft (Diameter)
Luminous Width (90-270)	0.46 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	4105	4105	4105
55	3006	3006	3006
65	2449	2449	2449
75	1993	1993	1993
85	1311	1311	1311

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CANDELA TABULATION

	<u>0</u>
0.0	2170.181
0.5	2169.180
1.0	2166.179
1.5	2161.676
2.0	2155.673
2.5	2147.168
3.0	2137.663
3.5	2126.657
4.0	2113.650
4.5	2100.143
5.0	2085.135
5.5	2068.125
6.0	2049.615
6.5	2029.104
7.0	2007.092
7.5	1983.079
8.0	1956.565
8.5	1928.049
9.0	1898.033
9.5	1866.015
10.0	1831.497
10.5	1794.977
11.0	1755.955
11.5	1713.933
12.0	1670.409
12.5	1624.384
13.0	1576.358
13.5	1525.830
14.0	1473.802
14.5	1419.773
15.0	1364.743
15.5	1308.712
16.0	1252.682
16.5	1196.151
17.0	1141.121
17.5	1086.091
18.0	1030.561
18.5	976.031
19.0	922.002
19.5	869.973
20.0	819.446
20.5	770.919
21.0	725.395
21.5	681.871
22.0	638.347
22.5	597.325
23.0	558.304
23.5	521.284
24.0	486.815
24.5	454.197
25.0	423.731
25.5	395.015
26.0	368.400
26.5	343.487

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	320.324
<b>27.5</b>	298.863
<b>28.0</b>	278.852
<b>28.5</b>	260.342
<b>29.0</b>	243.182
<b>29.5</b>	227.174
<b>30.0</b>	212.366
<b>30.5</b>	198.558
<b>31.0</b>	185.751
<b>31.5</b>	173.845
<b>32.0</b>	162.739
<b>32.5</b>	152.433
<b>33.0</b>	142.828
<b>33.5</b>	133.873
<b>34.0</b>	125.618
<b>34.5</b>	117.964
<b>35.0</b>	110.810
<b>35.5</b>	104.257
<b>36.0</b>	98.153
<b>36.5</b>	92.600
<b>37.0</b>	87.448
<b>37.5</b>	82.745
<b>38.0</b>	78.493
<b>38.5</b>	74.541
<b>39.0</b>	70.939
<b>39.5</b>	67.637
<b>40.0</b>	64.635
<b>40.5</b>	61.834
<b>41.0</b>	59.282
<b>41.5</b>	56.931
<b>42.0</b>	54.730
<b>42.5</b>	52.729
<b>43.0</b>	50.828
<b>43.5</b>	49.077
<b>44.0</b>	47.476
<b>44.5</b>	45.925
<b>45.0</b>	44.474
<b>45.5</b>	43.123
<b>46.0</b>	41.873
<b>46.5</b>	40.672
<b>47.0</b>	39.522
<b>47.5</b>	38.421
<b>48.0</b>	37.420
<b>48.5</b>	36.420
<b>49.0</b>	35.469
<b>49.5</b>	34.569
<b>50.0</b>	33.718
<b>50.5</b>	32.868
<b>51.0</b>	32.067
<b>51.5</b>	31.267
<b>52.0</b>	30.517
<b>52.5</b>	29.816
<b>53.0</b>	29.066
<b>53.5</b>	28.365
<b>54.0</b>	27.715
<b>54.5</b>	27.065

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CANDELA TABULATION - (Cont.)

55.0	26.414
55.5	25.764
56.0	25.164
56.5	24.563
57.0	23.963
57.5	23.363
58.0	22.812
58.5	22.262
59.0	21.712
59.5	21.212
60.0	20.711
60.5	20.161
61.0	19.661
61.5	19.160
62.0	18.660
62.5	18.210
63.0	17.710
63.5	17.259
64.0	16.809
64.5	16.359
65.0	15.859
65.5	15.408
66.0	14.958
66.5	14.558
67.0	14.108
67.5	13.657
68.0	13.257
68.5	12.857
69.0	12.407
69.5	12.007
70.0	11.606
70.5	11.206
71.0	10.856
71.5	10.456
72.0	10.055
72.5	9.705
73.0	9.305
73.5	8.955
74.0	8.605
74.5	8.254
75.0	7.904
75.5	7.554
76.0	7.204
76.5	6.854
77.0	6.504
77.5	6.203
78.0	5.853
78.5	5.553
79.0	5.253
79.5	4.903
80.0	4.603
80.5	4.302
81.0	4.002
81.5	3.702
82.0	3.402
82.5	3.102

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

83.0	2.852
83.5	2.551
84.0	2.301
84.5	2.001
85.0	1.751
85.5	1.501
86.0	1.251
86.5	1.051
87.0	0.850
87.5	0.700
88.0	0.550
88.5	0.450
89.0	0.350
89.5	0.250
90.0	0.150
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-L10-840-XXX-DIM-UNV-LM-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
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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

IES INDOOR REPORT  
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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
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145.5	0.000
146.0	0.000
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147.5	0.000
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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
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158.0	0.000
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159.0	0.000
159.5	0.000
160.0	0.000
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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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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	558.14	N.A.	60.70
0-30	760.28	N.A.	82.70
0-40	833.79	N.A.	90.70
0-60	892.87	N.A.	97.10
0-80	917.05	N.A.	99.80
0-90	919.19	N.A.	100.00
10-90	728.08	N.A.	79.20
20-40	275.65	N.A.	30.00
20-50	310.93	N.A.	33.80
40-70	74.87	N.A.	8.10
60-80	24.18	N.A.	2.60
70-80	8.40	N.A.	0.90
80-90	2.14	N.A.	0.20
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	919.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	191.11
10-20	367.03
20-30	202.14
30-40	73.50
40-50	35.29
50-60	23.80
60-70	15.78
70-80	8.40
80-90	2.14
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	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	107	103	99	96	99	97	94	96	94	92	94	92	90	89
3	104	98	94	90	102	97	93	89	94	91	88	92	89	86	90	87	85	84
4	100	93	88	84	98	92	87	84	90	86	83	88	84	82	86	83	81	79
5	96	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75
6	92	84	79	75	90	83	78	75	82	77	74	80	77	74	79	76	73	72
7	88	80	75	71	87	79	74	71	78	74	71	77	73	70	76	73	70	69
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66
9	82	74	68	65	81	73	68	65	72	68	65	71	67	64	71	67	64	63
10	79	71	66	62	78	70	65	62	69	65	62	69	65	62	68	64	62	61

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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	9.3	10.3	9.6	10.6	10.9	UGR Viewed Endwise	9.3	10.3	9.6	10.6	10.9
	3H	10.7	11.6	11.1	11.9	12.3		10.7	11.6	11.1	11.9	12.3
	4H	11.2	12.0	11.6	12.4	12.8		11.2	12.0	11.6	12.4	12.8
	6H	11.5	12.3	12.0	12.7	13.1		11.5	12.3	12.0	12.7	13.1
	8H	11.6	12.3	12.0	12.7	13.1		11.6	12.3	12.0	12.7	13.1
	12H	11.7	12.3	12.1	12.7	13.2		11.7	12.3	12.1	12.7	13.2

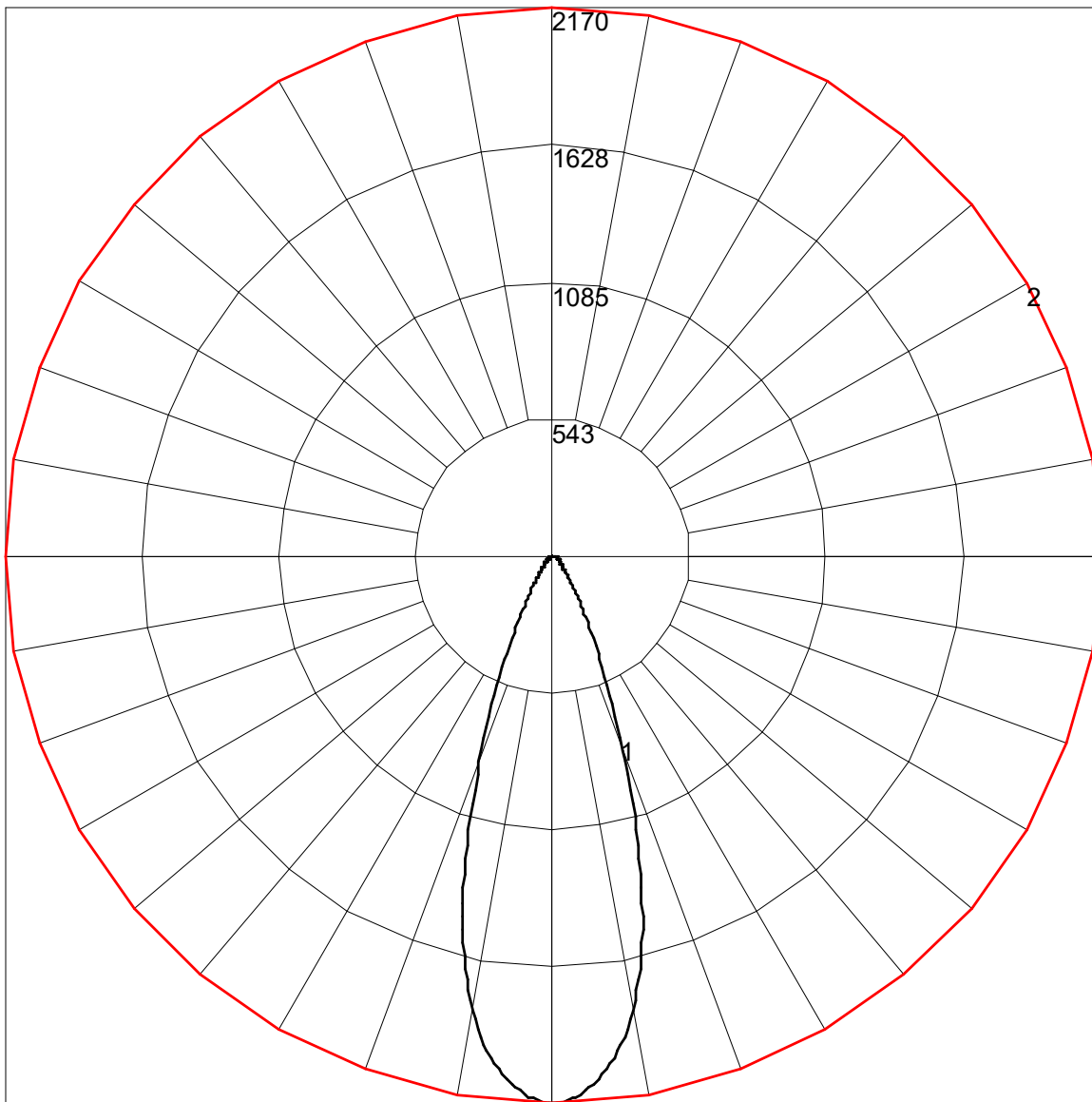
4H	2H	9.7	10.5	10.1	10.9	11.3	9.7	10.5	10.1	10.9	11.3
	3H	11.3	12.0	11.7	12.4	12.8	11.3	12.0	11.7	12.4	12.8
	4H	11.9	12.5	12.3	12.9	13.4	11.9	12.5	12.3	12.9	13.4
	6H	12.4	12.9	12.8	13.3	13.8	12.4	12.9	12.8	13.3	13.8
	8H	12.5	13.0	13.0	13.4	13.9	12.5	13.0	13.0	13.4	13.9
	12H	12.6	13.0	13.0	13.5	13.9	12.6	13.0	13.0	13.5	13.9

8H	4H	12.1	12.6	12.6	13.0	13.5	12.1	12.6	12.6	13.0	13.5
	6H	12.6	13.0	13.2	13.5	14.0	12.6	13.0	13.2	13.5	14.0
	8H	12.8	13.2	13.4	13.7	14.2	12.8	13.2	13.4	13.7	14.2
	12H	13.0	13.3	13.5	13.8	14.3	13.0	13.3	13.5	13.8	14.3

12H	4H	12.1	12.5	12.6	13.0	13.4	12.1	12.5	12.6	13.0	13.4
	6H	12.7	13.0	13.2	13.5	14.0	12.7	13.0	13.2	13.5	14.0
	8H	12.9	13.2	13.4	13.7	14.3	12.9	13.2	13.4	13.7	14.3

Maximum UGR = 14.3

POLAR GRAPH



Maximum Candela = 2170.181 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.)