



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L60-840-XXX-DIM-UNV-RW-WH-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12326812.12  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUE DATE] 2-FEB-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 8CR-TL-L60-840-xxx-DIM-UNV-RW-WH-xx  
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glass  
 [MORE] s patterned lens enclosure  
 [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	4306
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
Total Luminaire Watts	54
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	58145	58145	58145
55	48490	48490	48490
65	34210	34210	34210
75	20956	20956	20956
85	16527	16527	16527

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CANDELA TABULATION

	<u>0</u>
0.0	3185.546
0.5	3182.566
1.0	3179.587
1.5	3176.607
2.0	3170.647
2.5	3161.707
3.0	3152.767
3.5	3140.847
4.0	3128.928
4.5	3119.988
5.0	3108.068
5.5	3096.148
6.0	3084.229
6.5	3072.309
7.0	3060.389
7.5	3048.470
8.0	3033.570
8.5	3021.650
9.0	3009.730
9.5	2994.831
10.0	2982.911
10.5	2968.309
11.0	2954.006
11.5	2939.702
12.0	2925.398
12.5	2911.393
13.0	2897.089
13.5	2882.189
14.0	2867.588
14.5	2853.284
15.0	2839.874
15.5	2826.167
16.0	2812.757
16.5	2799.645
17.0	2787.428
17.5	2775.210
18.0	2763.290
18.5	2751.966
19.0	2740.643
19.5	2729.021
20.0	2717.101
20.5	2704.287
21.0	2689.686
21.5	2672.998
22.0	2654.225
22.5	2633.365
23.0	2610.718
23.5	2585.090
24.0	2557.079
24.5	2526.386
25.0	2492.414
25.5	2455.761
26.0	2414.936
26.5	2370.237

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	2322.558
<b>27.5</b>	2270.708
<b>28.0</b>	2215.579
<b>28.5</b>	2155.682
<b>29.0</b>	2092.508
<b>29.5</b>	2023.969
<b>30.0</b>	1951.259
<b>30.5</b>	1874.377
<b>31.0</b>	1794.515
<b>31.5</b>	1712.864
<b>32.0</b>	1629.724
<b>32.5</b>	1547.180
<b>33.0</b>	1465.530
<b>33.5</b>	1386.562
<b>34.0</b>	1310.872
<b>34.5</b>	1239.651
<b>35.0</b>	1174.689
<b>35.5</b>	1115.090
<b>36.0</b>	1062.643
<b>36.5</b>	1016.157
<b>37.0</b>	975.331
<b>37.5</b>	940.466
<b>38.0</b>	909.773
<b>38.5</b>	882.656
<b>39.0</b>	859.114
<b>39.5</b>	838.255
<b>40.0</b>	819.183
<b>40.5</b>	801.899
<b>41.0</b>	785.808
<b>41.5</b>	771.206
<b>42.0</b>	757.796
<b>42.5</b>	744.983
<b>43.0</b>	732.765
<b>43.5</b>	721.143
<b>44.0</b>	710.118
<b>44.5</b>	699.688
<b>45.0</b>	688.960
<b>45.5</b>	678.828
<b>46.0</b>	668.399
<b>46.5</b>	658.267
<b>47.0</b>	647.837
<b>47.5</b>	637.407
<b>48.0</b>	626.680
<b>48.5</b>	615.952
<b>49.0</b>	605.820
<b>49.5</b>	595.390
<b>50.0</b>	584.364
<b>50.5</b>	573.041
<b>51.0</b>	561.419
<b>51.5</b>	549.797
<b>52.0</b>	538.176
<b>52.5</b>	526.256
<b>53.0</b>	514.634
<b>53.5</b>	503.310
<b>54.0</b>	490.795
<b>54.5</b>	478.279

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CANDELA TABULATION - (Cont.)

55.0	466.061
55.5	453.546
56.0	441.328
56.5	429.110
57.0	416.892
57.5	404.675
58.0	393.053
58.5	381.133
59.0	369.511
59.5	358.188
60.0	346.864
60.5	335.540
61.0	324.514
61.5	313.787
62.0	303.059
62.5	292.629
63.0	282.199
63.5	271.770
64.0	261.936
64.5	251.804
65.0	242.268
65.5	232.435
66.0	223.197
66.5	213.959
67.0	205.019
67.5	196.079
68.0	187.438
68.5	178.796
69.0	170.750
69.5	162.406
70.0	154.658
70.5	146.911
71.0	139.461
71.5	132.309
72.0	125.157
72.5	118.601
73.0	112.343
73.5	106.682
74.0	101.020
74.5	95.954
75.0	90.888
75.5	86.418
76.0	81.948
76.5	78.074
77.0	74.498
77.5	70.922
78.0	67.346
78.5	63.771
79.0	60.493
79.5	57.215
80.0	53.937
80.5	50.659
81.0	47.381
81.5	44.401
82.0	41.123
82.5	38.143

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CANDELA TABULATION - (Cont.)

83.0	35.163
83.5	32.481
84.0	29.501
84.5	26.819
85.0	24.137
85.5	21.456
86.0	18.774
86.5	16.092
87.0	13.708
87.5	11.026
88.0	8.940
88.5	7.152
89.0	5.662
89.5	4.172
90.0	2.980
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  
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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
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123.5	0.000
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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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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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 8CR-TL-L60-840-XXX-DIM-UNV-RW-WH-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1094.62	N.A.	25.40
0-30	2212.9	N.A.	51.40
0-40	2986.6	N.A.	69.40
0-60	3936.06	N.A.	91.40
0-80	4278.82	N.A.	99.40
0-90	4306.31	N.A.	100.00
10-90	4013.68	N.A.	93.20
20-40	1891.98	N.A.	43.90
20-50	2425.79	N.A.	56.30
40-70	1191.37	N.A.	27.70
60-80	342.76	N.A.	8.00
70-80	100.85	N.A.	2.30
80-90	27.49	N.A.	0.60
90-110	0.08	N.A.	0.00
90-120	0.08	N.A.	0.00
90-130	0.08	N.A.	0.00
90-150	0.08	N.A.	0.00
90-180	0.08	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	4306.39	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	292.63
10-20	801.99
20-30	1118.28
30-40	773.70
40-50	533.81
50-60	415.65
60-70	241.91
70-80	100.85
80-90	27.49
90-100	0.08
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

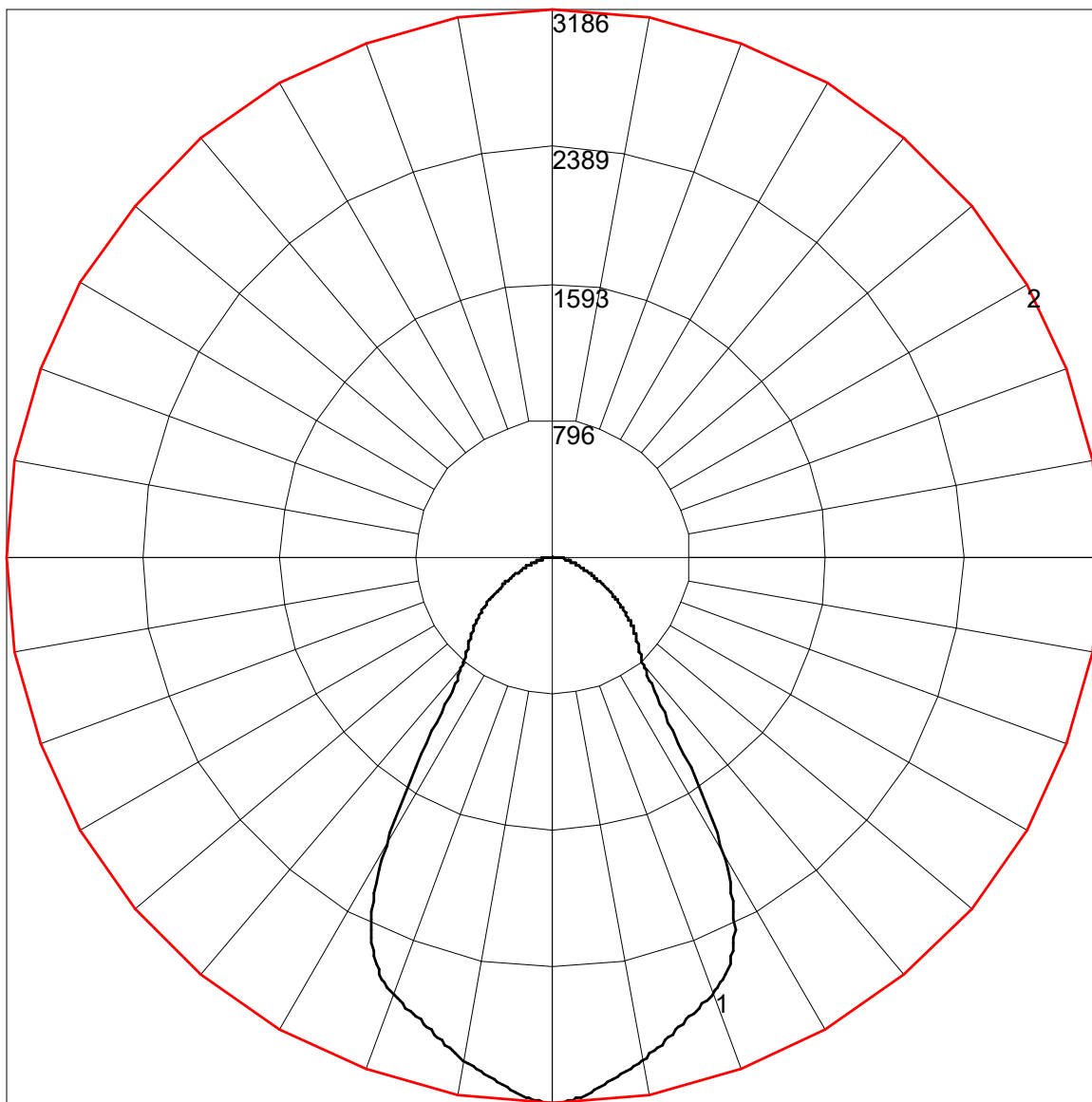
X=2H	Y=2H	22.9	24.3	23.3	24.6	24.9	22.9	24.3	23.3	24.6	24.9
	3H	23.9	25.1	24.3	25.4	25.8	23.9	25.1	24.3	25.4	25.8
	4H	24.2	25.3	24.6	25.6	26.0	24.2	25.3	24.6	25.6	26.0
	6H	24.3	25.4	24.8	25.7	26.1	24.3	25.4	24.8	25.7	26.1
	8H	24.4	25.4	24.8	25.8	26.2	24.4	25.4	24.8	25.8	26.2
	12H	24.4	25.3	24.9	25.7	26.2	24.4	25.3	24.9	25.7	26.2

### UGR Viewed Endwise

4H	2H	23.3	24.4	23.7	24.7	25.1	23.3	24.4	23.7	24.7	25.1
	3H	24.4	25.3	24.8	25.7	26.1	24.4	25.3	24.8	25.7	26.1
	4H	24.8	25.6	25.2	26.0	26.4	24.8	25.6	25.2	26.0	26.4
	6H	25.0	25.7	25.5	26.2	26.6	25.0	25.7	25.5	26.2	26.6
	8H	25.1	25.7	25.6	26.2	26.7	25.1	25.7	25.6	26.2	26.7
	12H	25.2	25.7	25.6	26.2	26.7	25.2	25.7	25.6	26.2	26.7
8H	4H	24.8	25.5	25.3	25.9	26.4	24.8	25.5	25.3	25.9	26.4
	6H	25.2	25.7	25.7	26.2	26.7	25.2	25.7	25.7	26.2	26.7
	8H	25.3	25.8	25.8	26.3	26.8	25.3	25.8	25.8	26.3	26.8
	12H	25.4	25.8	25.9	26.3	26.9	25.4	25.8	25.9	26.3	26.9
12H	4H	24.8	25.4	25.3	25.9	26.4	24.8	25.4	25.3	25.9	26.4
	6H	25.2	25.7	25.7	26.1	26.7	25.2	25.7	25.7	26.1	26.7
	8H	25.3	25.8	25.9	26.3	26.8	25.3	25.8	25.9	26.3	26.8

Maximum UGR = 26.9

POLAR GRAPH



Maximum Candela = 3185.546 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.)