



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L15-840-XXX-DIM-UNV-LM-CS-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.09

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 27-JAN-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 6CR-TL-L15-840-xxx-DIM-UNV-LM-CS-xx

[LUMINAIRE] 6" DIA. SURFACE CYLINDER

[LAMP] One white LED

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight

[\_SEARCH\_MOUNTING] Surface

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1332
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	96
Total Luminaire Watts	13.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.54
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	10109	10109	10109
55	7879	7879	7879
65	6585	6585	6585
75	5298	5298	5298
85	3165	3165	3165

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CANDELA TABULATION

	<u>0</u>
0.0	3447.060
0.5	3445.575
1.0	3440.377
1.5	3432.208
2.0	3421.812
2.5	3407.703
3.0	3391.366
3.5	3372.059
4.0	3349.782
4.5	3326.019
5.0	3299.286
5.5	3269.583
6.0	3236.910
6.5	3200.523
7.0	3161.166
7.5	3118.097
8.0	3071.314
8.5	3020.819
9.0	2967.353
9.5	2909.431
10.0	2847.055
10.5	2780.222
11.0	2710.420
11.5	2636.904
12.0	2558.933
12.5	2477.992
13.0	2393.338
13.5	2305.713
14.0	2214.376
14.5	2120.068
15.0	2025.018
15.5	1928.482
16.0	1831.947
16.5	1734.669
17.0	1638.133
17.5	1544.568
18.0	1451.745
18.5	1362.636
19.0	1277.239
19.5	1194.812
20.0	1116.841
20.5	1041.841
21.0	972.038
21.5	905.949
22.0	843.572
22.5	785.650
23.0	730.997
23.5	680.055
24.0	632.753
24.5	588.570
25.0	547.579
25.5	509.485
26.0	473.767
26.5	440.796

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	410.053
<b>27.5</b>	381.909
<b>28.0</b>	355.696
<b>28.5</b>	331.488
<b>29.0</b>	309.285
<b>29.5</b>	288.567
<b>30.0</b>	269.334
<b>30.5</b>	251.586
<b>31.0</b>	235.175
<b>31.5</b>	220.101
<b>32.0</b>	206.140
<b>32.5</b>	193.294
<b>33.0</b>	181.487
<b>33.5</b>	170.571
<b>34.0</b>	160.620
<b>34.5</b>	151.412
<b>35.0</b>	143.095
<b>35.5</b>	135.372
<b>36.0</b>	128.318
<b>36.5</b>	121.858
<b>37.0</b>	115.917
<b>37.5</b>	110.496
<b>38.0</b>	105.595
<b>38.5</b>	101.065
<b>39.0</b>	96.907
<b>39.5</b>	93.120
<b>40.0</b>	89.629
<b>40.5</b>	86.362
<b>41.0</b>	83.318
<b>41.5</b>	80.570
<b>42.0</b>	77.971
<b>42.5</b>	75.520
<b>43.0</b>	73.293
<b>43.5</b>	71.139
<b>44.0</b>	69.134
<b>44.5</b>	67.278
<b>45.0</b>	65.421
<b>45.5</b>	63.713
<b>46.0</b>	62.154
<b>46.5</b>	60.595
<b>47.0</b>	59.109
<b>47.5</b>	57.773
<b>48.0</b>	56.362
<b>48.5</b>	55.099
<b>49.0</b>	53.837
<b>49.5</b>	52.575
<b>50.0</b>	51.461
<b>50.5</b>	50.347
<b>51.0</b>	49.307
<b>51.5</b>	48.193
<b>52.0</b>	47.154
<b>52.5</b>	46.189
<b>53.0</b>	45.149
<b>53.5</b>	44.184
<b>54.0</b>	43.218
<b>54.5</b>	42.253

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CANDELA TABULATION - (Cont.)

55.0	41.362
55.5	40.471
56.0	39.580
56.5	38.688
57.0	37.723
57.5	36.906
58.0	36.089
58.5	35.347
59.0	34.530
59.5	33.713
60.0	32.896
60.5	32.079
61.0	31.411
61.5	30.594
62.0	29.852
62.5	29.109
63.0	28.367
63.5	27.698
64.0	26.956
64.5	26.213
65.0	25.471
65.5	24.802
66.0	24.134
66.5	23.466
67.0	22.723
67.5	22.055
68.0	21.386
68.5	20.718
69.0	20.050
69.5	19.381
70.0	18.713
70.5	18.119
71.0	17.525
71.5	16.782
72.0	16.188
72.5	15.594
73.0	15.000
73.5	14.332
74.0	13.738
74.5	13.144
75.0	12.550
75.5	11.956
76.0	11.361
76.5	10.767
77.0	10.173
77.5	9.728
78.0	9.134
78.5	8.614
79.0	8.094
79.5	7.574
80.0	7.055
80.5	6.535
81.0	6.015
81.5	5.644
82.0	5.050
82.5	4.678

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CANDELA TABULATION - (Cont.)

83.0	4.158
83.5	3.787
84.0	3.342
84.5	2.896
85.0	2.525
85.5	2.079
86.0	1.782
86.5	1.411
87.0	1.188
87.5	0.965
88.0	0.743
88.5	0.594
89.0	0.446
89.5	0.297
90.0	0.223
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
119.5	0.000
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130.0	0.000
130.5	0.000
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132.5	0.000
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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

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
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
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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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-L15-840-XXX-DIM-UNV-LM-CS-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	842.52	N.A.	63.20
0-30	1106.54	N.A.	83.10
0-40	1201.71	N.A.	90.20
0-60	1290.43	N.A.	96.90
0-80	1329.11	N.A.	99.80
0-90	1332.25	N.A.	100.00
10-90	1031.41	N.A.	77.40
20-40	359.18	N.A.	27.00
20-50	410.73	N.A.	30.80
40-70	114.05	N.A.	8.60
60-80	38.68	N.A.	2.90
70-80	13.35	N.A.	1.00
80-90	3.14	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	1332.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	300.84
10-20	541.68
20-30	264.01
30-40	95.17
40-50	51.54
50-60	37.18
60-70	25.33
70-80	13.35
80-90	3.14
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	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	101	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	87	90	87	85	84
4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80
5	96	89	83	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76
6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	72
7	89	81	76	72	88	80	75	72	79	75	71	78	74	71	77	73	71	69
8	86	77	72	69	84	77	72	69	76	71	68	75	71	68	74	70	68	67
9	83	74	69	66	82	74	69	66	73	69	66	72	68	65	71	68	65	64
10	80	72	67	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

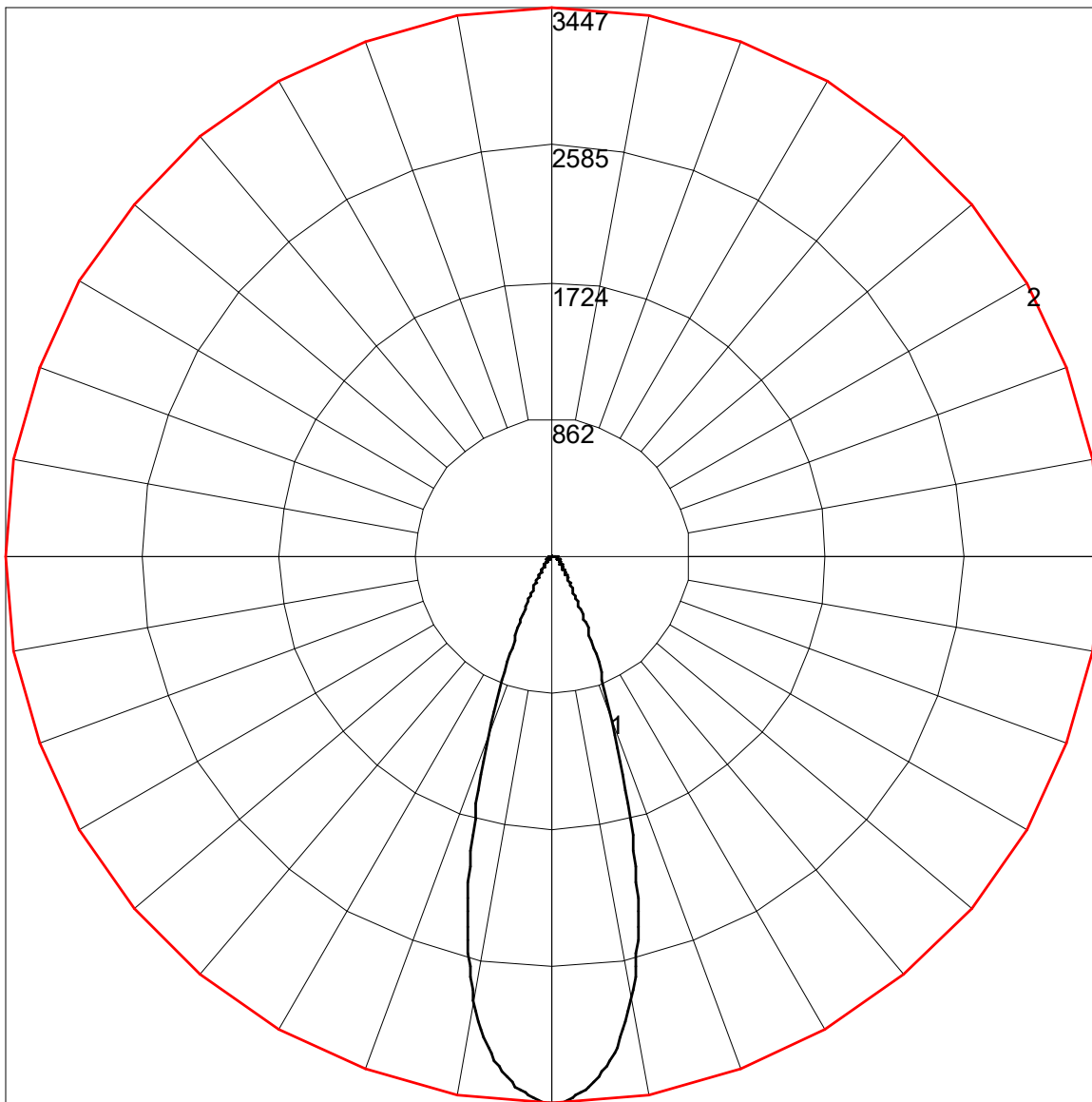
X=2H	Y=2H	12.9	14.0	13.3	14.3	14.6	12.9	14.0	13.3	14.3	14.6
	3H	14.4	15.3	14.8	15.6	16.0	14.4	15.3	14.8	15.6	16.0
	4H	14.9	15.7	15.3	16.1	16.5	14.9	15.7	15.3	16.1	16.5
	6H	15.2	16.0	15.6	16.4	16.8	15.2	16.0	15.6	16.4	16.8
	8H	15.3	16.0	15.7	16.4	16.8	15.3	16.0	15.7	16.4	16.8
	12H	15.3	16.0	15.8	16.4	16.8	15.3	16.0	15.8	16.4	16.8

### UGR Viewed Endwise

4H	2H	13.4	14.2	13.8	14.6	15.0	13.4	14.2	13.8	14.6	15.0
	3H	15.0	15.7	15.4	16.1	16.5	15.0	15.7	15.4	16.1	16.5
	4H	15.6	16.3	16.1	16.7	17.1	15.6	16.3	16.1	16.7	17.1
	6H	16.1	16.6	16.6	17.1	17.5	16.1	16.6	16.6	17.1	17.5
	8H	16.2	16.7	16.7	17.1	17.6	16.2	16.7	16.7	17.1	17.6
	12H	16.2	16.7	16.7	17.1	17.6	16.2	16.7	16.7	17.1	17.6
8H	4H	15.8	16.3	16.3	16.7	17.2	15.8	16.3	16.3	16.7	17.2
	6H	16.3	16.7	16.9	17.2	17.7	16.3	16.7	16.9	17.2	17.7
	8H	16.5	16.8	17.0	17.4	17.9	16.5	16.8	17.0	17.4	17.9
	12H	16.6	16.9	17.1	17.4	18.0	16.6	16.9	17.1	17.4	18.0
12H	4H	15.8	16.2	16.3	16.7	17.2	15.8	16.2	16.3	16.7	17.2
	6H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7
	8H	16.5	16.8	17.1	17.3	17.9	16.5	16.8	17.1	17.3	17.9

Maximum UGR = 18.0

POLAR GRAPH



Maximum Candela = 3447.06 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.)