



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L15-830-XXX-DIM-UNV-LW-CS-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.07

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 27-JAN-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 6CR-TL-L15-830-xxx-DIM-UNV-LW-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	954
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	13.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
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	26327	26327	26327
55	21633	21633	21633
65	15826	15826	15826
75	10956	10956	10956
85	5972	5972	5972

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CANDELA TABULATION

	<u>0</u>
0.0	670.163
0.5	669.951
1.0	669.528
1.5	668.963
2.0	668.398
2.5	667.763
3.0	666.916
3.5	666.422
4.0	666.069
4.5	665.858
5.0	665.575
5.5	665.293
6.0	665.081
6.5	664.799
7.0	664.587
7.5	664.446
8.0	664.375
8.5	664.164
9.0	663.952
9.5	663.528
10.0	663.246
10.5	662.752
11.0	662.258
11.5	661.623
12.0	660.917
12.5	660.070
13.0	659.082
13.5	657.953
14.0	656.541
14.5	654.847
15.0	652.800
15.5	650.330
16.0	647.577
16.5	644.330
17.0	640.801
17.5	636.849
18.0	632.191
18.5	627.391
19.0	622.168
19.5	616.310
20.0	609.887
20.5	602.900
21.0	595.348
21.5	587.231
22.0	578.267
22.5	568.739
23.0	558.504
23.5	547.494
24.0	535.636
24.5	523.002
25.0	509.310
25.5	494.982
26.0	479.666
26.5	463.432

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	446.634
<b>27.5</b>	429.130
<b>28.0</b>	411.344
<b>28.5</b>	393.487
<b>29.0</b>	375.983
<b>29.5</b>	358.832
<b>30.0</b>	342.316
<b>30.5</b>	326.788
<b>31.0</b>	312.249
<b>31.5</b>	298.980
<b>32.0</b>	286.910
<b>32.5</b>	276.041
<b>33.0</b>	266.371
<b>33.5</b>	257.760
<b>34.0</b>	250.067
<b>34.5</b>	243.291
<b>35.0</b>	237.151
<b>35.5</b>	231.575
<b>36.0</b>	226.634
<b>36.5</b>	221.976
<b>37.0</b>	217.741
<b>37.5</b>	213.789
<b>38.0</b>	210.119
<b>38.5</b>	206.589
<b>39.0</b>	203.343
<b>39.5</b>	200.167
<b>40.0</b>	197.202
<b>40.5</b>	194.238
<b>41.0</b>	191.415
<b>41.5</b>	188.662
<b>42.0</b>	186.051
<b>42.5</b>	183.439
<b>43.0</b>	180.828
<b>43.5</b>	178.216
<b>44.0</b>	175.605
<b>44.5</b>	172.993
<b>45.0</b>	170.382
<b>45.5</b>	167.770
<b>46.0</b>	165.159
<b>46.5</b>	162.547
<b>47.0</b>	159.795
<b>47.5</b>	157.042
<b>48.0</b>	154.289
<b>48.5</b>	151.466
<b>49.0</b>	148.572
<b>49.5</b>	145.678
<b>50.0</b>	142.855
<b>50.5</b>	139.961
<b>51.0</b>	137.068
<b>51.5</b>	134.174
<b>52.0</b>	131.351
<b>52.5</b>	128.527
<b>53.0</b>	125.634
<b>53.5</b>	122.669
<b>54.0</b>	119.634
<b>54.5</b>	116.599

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CANDELA TABULATION - (Cont.)

55.0	113.564
55.5	110.529
56.0	107.565
56.5	104.671
57.0	101.777
57.5	98.883
58.0	96.060
58.5	93.308
59.0	90.555
59.5	87.873
60.0	85.261
60.5	82.650
61.0	80.109
61.5	77.639
62.0	75.168
62.5	72.698
63.0	70.341
63.5	67.997
64.0	65.696
64.5	63.431
65.0	61.215
65.5	59.055
66.0	56.923
66.5	54.848
67.0	52.823
67.5	50.832
68.0	48.905
68.5	47.021
69.0	45.136
69.5	43.315
70.0	41.544
70.5	39.800
71.0	38.099
71.5	36.441
72.0	34.839
72.5	33.258
73.0	31.719
73.5	30.223
74.0	28.755
74.5	27.336
75.0	25.952
75.5	24.611
76.0	23.299
76.5	22.021
77.0	20.800
77.5	19.586
78.0	18.414
78.5	17.278
79.0	16.163
79.5	15.090
80.0	14.038
80.5	13.015
81.0	12.006
81.5	11.025
82.0	10.065
82.5	9.133

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CANDELA TABULATION - (Cont.)

83.0	8.209
83.5	7.312
84.0	6.437
84.5	5.583
85.0	4.764
85.5	3.974
86.0	3.218
86.5	2.506
87.0	1.877
87.5	1.355
88.0	0.946
88.5	0.600
89.0	0.374
89.5	0.254
90.0	0.176
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
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
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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



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	246.16	N.A.	25.80
0-30	472.17	N.A.	49.50
0-40	626.12	N.A.	65.60
0-60	858.83	N.A.	90.00
0-80	948.04	N.A.	99.40
0-90	954.00	N.A.	100.00
10-90	890.53	N.A.	93.30
20-40	379.95	N.A.	39.80
20-50	511.17	N.A.	53.60
40-70	293.92	N.A.	30.80
60-80	89.21	N.A.	9.40
70-80	28.00	N.A.	2.90
80-90	5.97	N.A.	0.60
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	954.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	63.48
10-20	182.69
20-30	226.01
30-40	153.95
40-50	131.22
50-60	101.50
60-70	61.21
70-80	28.00
80-90	5.97
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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	103	97	91	87	101	95	90	86	92	88	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37

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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

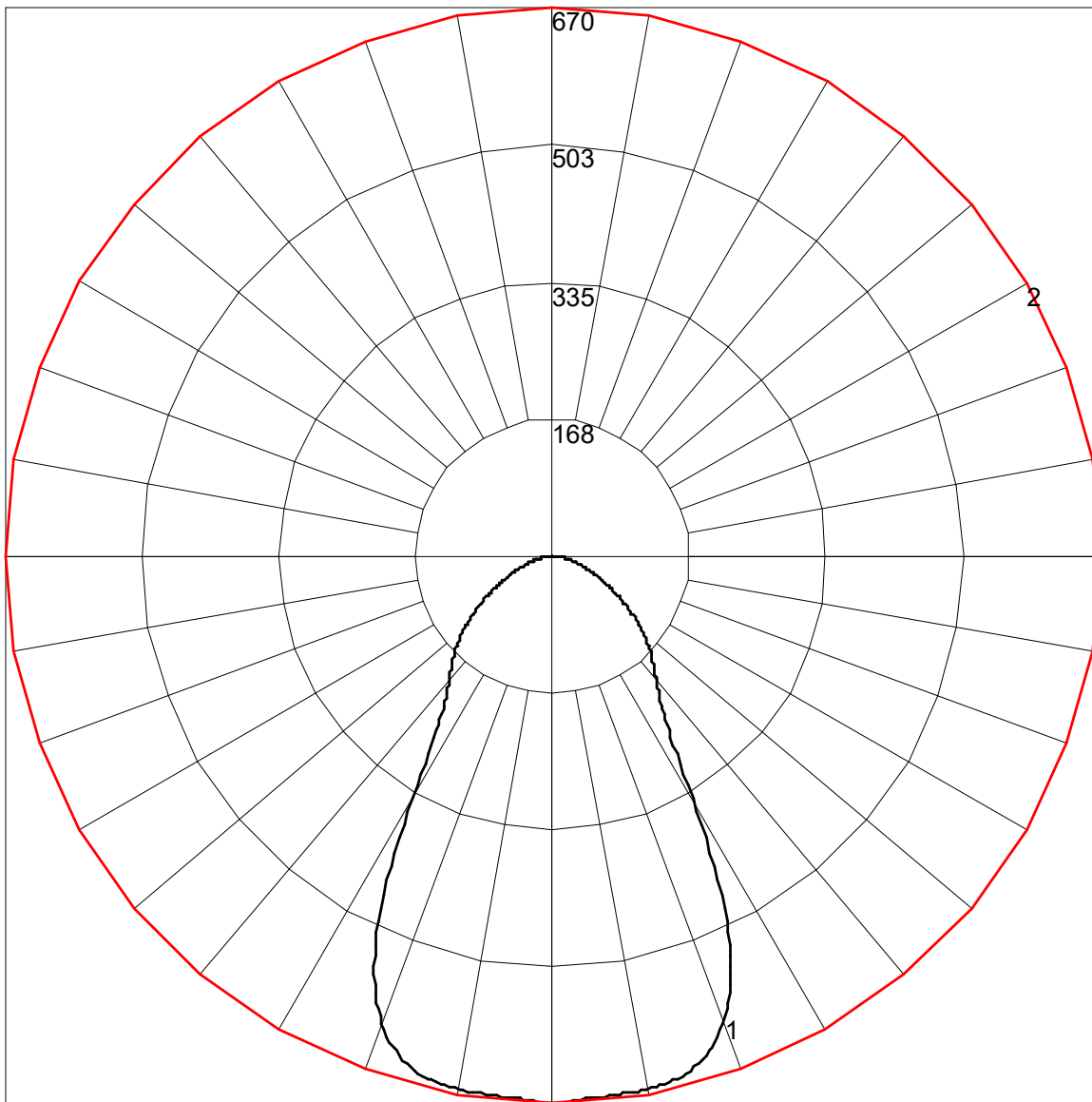
X=2H	Y=2H	20.5	21.9	20.9	22.2	22.5	20.5	21.9	20.9	22.2	22.5
	3H	21.6	22.8	22.0	23.2	23.5	21.6	22.8	22.0	23.2	23.5
	4H	22.0	23.1	22.4	23.5	23.8	22.0	23.1	22.4	23.5	23.8
	6H	22.2	23.2	22.6	23.6	24.0	22.2	23.2	22.6	23.6	24.0
	8H	22.2	23.2	22.7	23.6	24.0	22.2	23.2	22.7	23.6	24.0
	12H	22.2	23.2	22.7	23.6	24.0	22.2	23.2	22.7	23.6	24.0

### UGR Viewed Endwise

4H	2H	20.9	22.0	21.3	22.4	22.7	20.9	22.0	21.3	22.4	22.7
	3H	22.2	23.1	22.6	23.5	23.9	22.2	23.1	22.6	23.5	23.9
	4H	22.6	23.5	23.0	23.9	24.3	22.6	23.5	23.0	23.9	24.3
	6H	22.9	23.7	23.4	24.1	24.6	22.9	23.7	23.4	24.1	24.6
	8H	23.0	23.7	23.5	24.1	24.6	23.0	23.7	23.5	24.1	24.6
	12H	23.0	23.6	23.5	24.1	24.6	23.0	23.6	23.5	24.1	24.6
8H	4H	22.7	23.4	23.2	23.9	24.3	22.7	23.4	23.2	23.9	24.3
	6H	23.1	23.7	23.6	24.2	24.7	23.1	23.7	23.6	24.2	24.7
	8H	23.2	23.7	23.8	24.3	24.7	23.2	23.7	23.8	24.3	24.7
	12H	23.3	23.8	23.8	24.2	24.8	23.3	23.8	23.8	24.2	24.8
12H	4H	22.7	23.3	23.2	23.8	24.3	22.7	23.3	23.2	23.8	24.3
	6H	23.1	23.6	23.7	24.1	24.6	23.1	23.6	23.7	24.1	24.6
	8H	23.3	23.7	23.8	24.2	24.8	23.3	23.7	23.8	24.2	24.8

Maximum UGR = 24.8

POLAR GRAPH



Maximum Candela = 670.163 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.)