



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L15-930-XXX-DIM-UNV-LM-WH-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-L15-930-xxx-DIM-UNV-LM-WH-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	1121
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	81
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	8506	8506	8506
55	6630	6630	6630
65	5541	5541	5541
75	4458	4458	4458
85	2664	2664	2664

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CANDELA TABULATION

	<u>0</u>
0.0	2900.603
0.5	2899.353
1.0	2894.979
1.5	2888.106
2.0	2879.358
2.5	2867.485
3.0	2853.738
3.5	2837.492
4.0	2818.746
4.5	2798.751
5.0	2776.256
5.5	2751.261
6.0	2723.767
6.5	2693.149
7.0	2660.032
7.5	2623.790
8.0	2584.423
8.5	2541.933
9.0	2496.943
9.5	2448.204
10.0	2395.715
10.5	2339.478
11.0	2280.741
11.5	2218.880
12.0	2153.270
12.5	2085.160
13.0	2013.926
13.5	1940.192
14.0	1863.334
14.5	1783.977
15.0	1703.995
15.5	1622.763
16.0	1541.531
16.5	1459.674
17.0	1378.442
17.5	1299.710
18.0	1221.602
18.5	1146.619
19.0	1074.760
19.5	1005.401
20.0	939.790
20.5	876.679
21.0	817.943
21.5	762.330
22.0	709.842
22.5	661.102
23.0	615.113
23.5	572.247
24.0	532.444
24.5	495.264
25.0	460.772
25.5	428.717
26.0	398.661
26.5	370.917

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CANDELA TABULATION - (Cont.)

27.0	345.048
27.5	321.366
28.0	299.308
28.5	278.938
29.0	260.254
29.5	242.821
30.0	226.637
30.5	211.703
31.0	197.893
31.5	185.209
32.0	173.461
32.5	162.651
33.0	152.716
33.5	143.530
34.0	135.157
34.5	127.409
35.0	120.411
35.5	113.912
36.0	107.976
36.5	102.540
37.0	97.541
37.5	92.979
38.0	88.855
38.5	85.044
39.0	81.544
39.5	78.358
40.0	75.421
40.5	72.671
41.0	70.109
41.5	67.797
42.0	65.610
42.5	63.548
43.0	61.674
43.5	59.862
44.0	58.175
44.5	56.612
45.0	55.050
45.5	53.613
46.0	52.301
46.5	50.989
47.0	49.739
47.5	48.614
48.0	47.427
48.5	46.365
49.0	45.302
49.5	44.240
50.0	43.303
50.5	42.366
51.0	41.491
51.5	40.553
52.0	39.679
52.5	38.866
53.0	37.992
53.5	37.179
54.0	36.367
54.5	35.555

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CANDELA TABULATION - (Cont.)

55.0	34.805
55.5	34.055
56.0	33.305
56.5	32.555
57.0	31.743
57.5	31.056
58.0	30.368
58.5	29.743
59.0	29.056
59.5	28.369
60.0	27.681
60.5	26.994
61.0	26.432
61.5	25.744
62.0	25.119
62.5	24.495
63.0	23.870
63.5	23.307
64.0	22.682
64.5	22.058
65.0	21.433
65.5	20.870
66.0	20.308
66.5	19.746
67.0	19.121
67.5	18.558
68.0	17.996
68.5	17.434
69.0	16.871
69.5	16.309
70.0	15.746
70.5	15.247
71.0	14.747
71.5	14.122
72.0	13.622
72.5	13.122
73.0	12.622
73.5	12.060
74.0	11.560
74.5	11.060
75.0	10.560
75.5	10.060
76.0	9.560
76.5	9.060
77.0	8.561
77.5	8.186
78.0	7.686
78.5	7.248
79.0	6.811
79.5	6.374
80.0	5.936
80.5	5.499
81.0	5.061
81.5	4.749
82.0	4.249
82.5	3.937

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CANDELA TABULATION - (Cont.)

83.0	3.499
83.5	3.187
84.0	2.812
84.5	2.437
85.0	2.125
85.5	1.750
86.0	1.500
86.5	1.187
87.0	1.000
87.5	0.812
88.0	0.625
88.5	0.500
89.0	0.375
89.5	0.250
90.0	0.187
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
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125.5	0.000
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127.5	0.000
128.0	0.000
128.5	0.000
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129.5	0.000
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130.5	0.000
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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
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156.5	0.000
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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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	708.96	N.A.	63.20
0-30	931.12	N.A.	83.10
0-40	1011.2	N.A.	90.20
0-60	1085.86	N.A.	96.90
0-80	1118.41	N.A.	99.80
0-90	1121.05	N.A.	100.00
10-90	867.90	N.A.	77.40
20-40	302.24	N.A.	27.00
20-50	345.61	N.A.	30.80
40-70	95.97	N.A.	8.60
60-80	32.55	N.A.	2.90
70-80	11.23	N.A.	1.00
80-90	2.64	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	1121.05	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	253.15
10-20	455.81
20-30	222.16
30-40	80.08
40-50	43.37
50-60	31.29
60-70	21.31
70-80	11.23
80-90	2.64
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	88	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	74	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

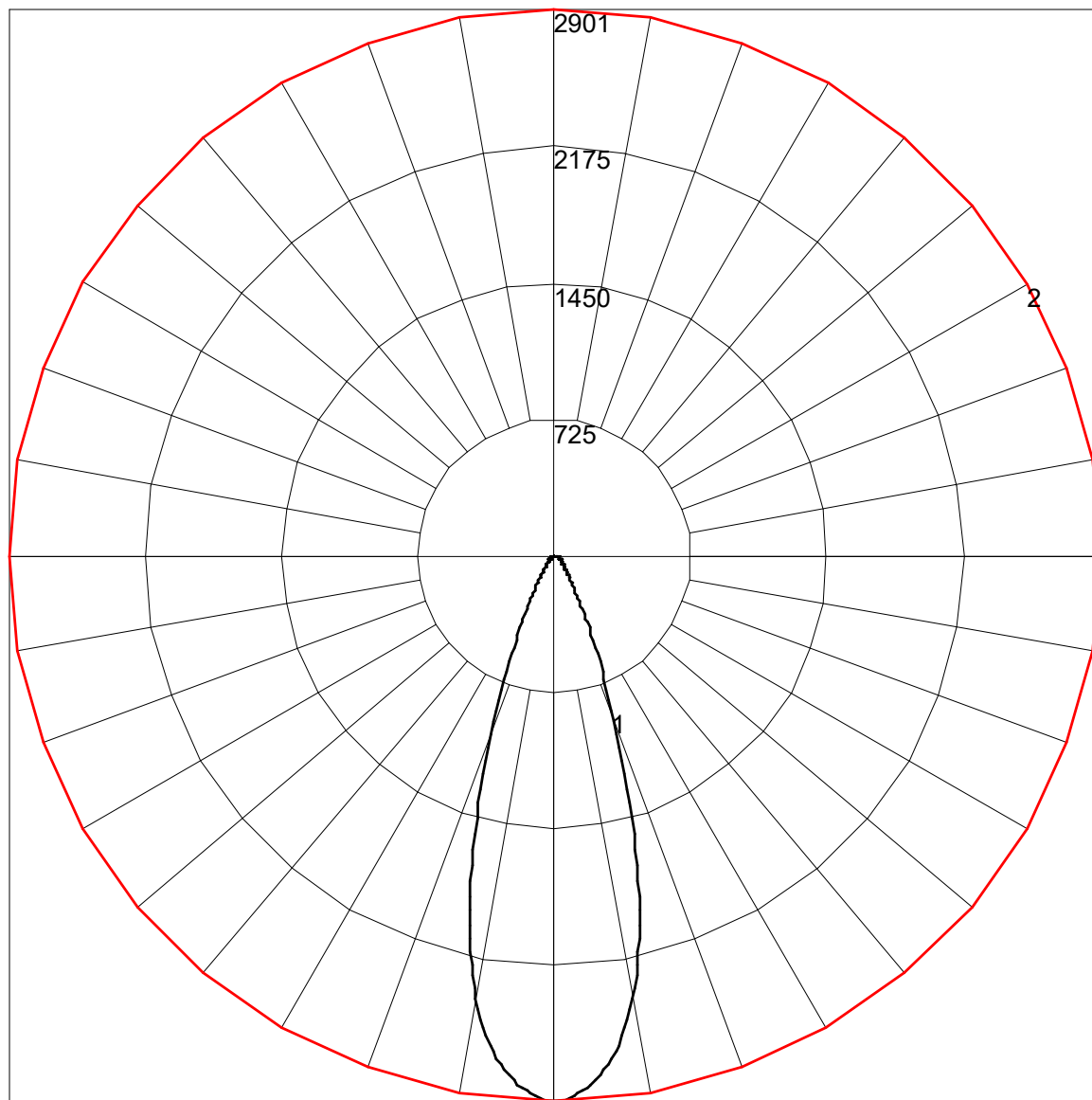
X=2H	Y=2H	12.3	13.4	12.7	13.7	14.0	12.3	13.4	12.7	13.7	14.0
	3H	13.8	14.7	14.2	15.0	15.4	13.8	14.7	14.2	15.0	15.4
	4H	14.3	15.1	14.7	15.5	15.9	14.3	15.1	14.7	15.5	15.9
	6H	14.6	15.4	15.0	15.8	16.2	14.6	15.4	15.0	15.8	16.2
	8H	14.7	15.4	15.1	15.8	16.2	14.7	15.4	15.1	15.8	16.2
	12H	14.7	15.4	15.2	15.8	16.2	14.7	15.4	15.2	15.8	16.2

UGR Viewed Endwise

4H	2H	12.8	13.6	13.2	14.0	14.4	12.8	13.6	13.2	14.0	14.4
	3H	14.4	15.1	14.8	15.5	15.9	14.4	15.1	14.8	15.5	15.9
	4H	15.0	15.7	15.5	16.1	16.5	15.0	15.7	15.5	16.1	16.5
	6H	15.5	16.0	16.0	16.5	16.9	15.5	16.0	16.0	16.5	16.9
	8H	15.6	16.1	16.1	16.5	17.0	15.6	16.1	16.1	16.5	17.0
	12H	15.6	16.0	16.1	16.5	17.0	15.6	16.0	16.1	16.5	17.0
8H	4H	15.2	15.7	15.7	16.1	16.6	15.2	15.7	15.7	16.1	16.6
	6H	15.7	16.1	16.3	16.6	17.1	15.7	16.1	16.3	16.6	17.1
	8H	15.9	16.2	16.4	16.8	17.3	15.9	16.2	16.4	16.8	17.3
	12H	16.0	16.3	16.5	16.8	17.4	16.0	16.3	16.5	16.8	17.4
12H	4H	15.2	15.6	15.7	16.1	16.6	15.2	15.6	15.7	16.1	16.6
	6H	15.7	16.1	16.3	16.6	17.1	15.7	16.1	16.3	16.6	17.1
	8H	15.9	16.2	16.5	16.7	17.3	15.9	16.2	16.5	16.7	17.3

Maximum UGR = 17.4

POLAR GRAPH



Maximum Candela = 2900.603 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.)