



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L13-8TW-XXX-DIM-UNV-LM-WH-XX_4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from 12316380.09
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 28-JAN-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 6CR-TL-L13-8TW-xxx-DIM-UNV-LM-WH-xx_4000K
 [LUMINAIRE] 6" DIA. SURFACE CYLINDER
 [LAMP] One white LED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1148
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	79
Total Luminaire Watts	14.6
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	8712	8712	8712
55	6791	6791	6791
65	5675	5675	5675
75	4566	4566	4566
85	2728	2728	2728

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CANDELA TABULATION

	<u>0</u>
0.0	2970.880
0.5	2969.600
1.0	2965.120
1.5	2958.080
2.0	2949.120
2.5	2936.960
3.0	2922.880
3.5	2906.240
4.0	2887.040
4.5	2866.560
5.0	2843.520
5.5	2817.920
6.0	2789.760
6.5	2758.400
7.0	2724.480
7.5	2687.360
8.0	2647.040
8.5	2603.520
9.0	2557.440
9.5	2507.520
10.0	2453.760
10.5	2396.160
11.0	2336.000
11.5	2272.640
12.0	2205.440
12.5	2135.680
13.0	2062.720
13.5	1987.200
14.0	1908.480
14.5	1827.200
15.0	1745.280
15.5	1662.080
16.0	1578.880
16.5	1495.040
17.0	1411.840
17.5	1331.200
18.0	1251.200
18.5	1174.400
19.0	1100.800
19.5	1029.760
20.0	962.560
20.5	897.920
21.0	837.760
21.5	780.800
22.0	727.040
22.5	677.120
23.0	630.016
23.5	586.112
24.0	545.344
24.5	507.264
25.0	471.936
25.5	439.104
26.0	408.320
26.5	379.904

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L13-8TW-XXX-DIM-UNV-LM-WH-XX_4000K.IES****CANDELA TABULATION - (Cont.)**

27.0	353.408
27.5	329.152
28.0	306.560
28.5	285.696
29.0	266.560
29.5	248.704
30.0	232.128
30.5	216.832
31.0	202.688
31.5	189.696
32.0	177.664
32.5	166.592
33.0	156.416
33.5	147.008
34.0	138.432
34.5	130.496
35.0	123.328
35.5	116.672
36.0	110.592
36.5	105.024
37.0	99.904
37.5	95.232
38.0	91.008
38.5	87.104
39.0	83.520
39.5	80.256
40.0	77.248
40.5	74.432
41.0	71.808
41.5	69.440
42.0	67.200
42.5	65.088
43.0	63.168
43.5	61.312
44.0	59.584
44.5	57.984
45.0	56.384
45.5	54.912
46.0	53.568
46.5	52.224
47.0	50.944
47.5	49.792
48.0	48.576
48.5	47.488
49.0	46.400
49.5	45.312
50.0	44.352
50.5	43.392
51.0	42.496
51.5	41.536
52.0	40.640
52.5	39.808
53.0	38.912
53.5	38.080
54.0	37.248
54.5	36.416

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55.0	35.648
55.5	34.880
56.0	34.112
56.5	33.344
57.0	32.512
57.5	31.808
58.0	31.104
58.5	30.464
59.0	29.760
59.5	29.056
60.0	28.352
60.5	27.648
61.0	27.072
61.5	26.368
62.0	25.728
62.5	25.088
63.0	24.448
63.5	23.872
64.0	23.232
64.5	22.592
65.0	21.952
65.5	21.376
66.0	20.800
66.5	20.224
67.0	19.584
67.5	19.008
68.0	18.432
68.5	17.856
69.0	17.280
69.5	16.704
70.0	16.128
70.5	15.616
71.0	15.104
71.5	14.464
72.0	13.952
72.5	13.440
73.0	12.928
73.5	12.352
74.0	11.840
74.5	11.328
75.0	10.816
75.5	10.304
76.0	9.792
76.5	9.280
77.0	8.768
77.5	8.384
78.0	7.872
78.5	7.424
79.0	6.976
79.5	6.528
80.0	6.080
80.5	5.632
81.0	5.184
81.5	4.864
82.0	4.352
82.5	4.032

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L13-8TW-XXX-DIM-UNV-LM-WH-XX_4000K.IES****CANDELA TABULATION - (Cont.)**

83.0	3.584
83.5	3.264
84.0	2.880
84.5	2.496
85.0	2.176
85.5	1.792
86.0	1.536
86.5	1.216
87.0	1.024
87.5	0.832
88.0	0.640
88.5	0.512
89.0	0.384
89.5	0.256
90.0	0.192
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 : 6CR-TL-L13-8TW-XXX-DIM-UNV-LM-WH-XX_4000K.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
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
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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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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Zone	Lumens	%Lamp	%Fixt
0-20	726.14	N.A.	63.20
0-30	953.68	N.A.	83.10
0-40	1035.7	N.A.	90.20
0-60	1112.17	N.A.	96.90
0-80	1145.5	N.A.	99.80
0-90	1148.21	N.A.	100.00
10-90	888.93	N.A.	77.40
20-40	309.57	N.A.	27.00
20-50	353.99	N.A.	30.80
40-70	98.29	N.A.	8.60
60-80	33.33	N.A.	2.90
70-80	11.50	N.A.	1.00
80-90	2.71	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	1148.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	259.28
10-20	466.85
20-30	227.54
30-40	82.02
40-50	44.42
50-60	32.04
60-70	21.83
70-80	11.50
80-90	2.71
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

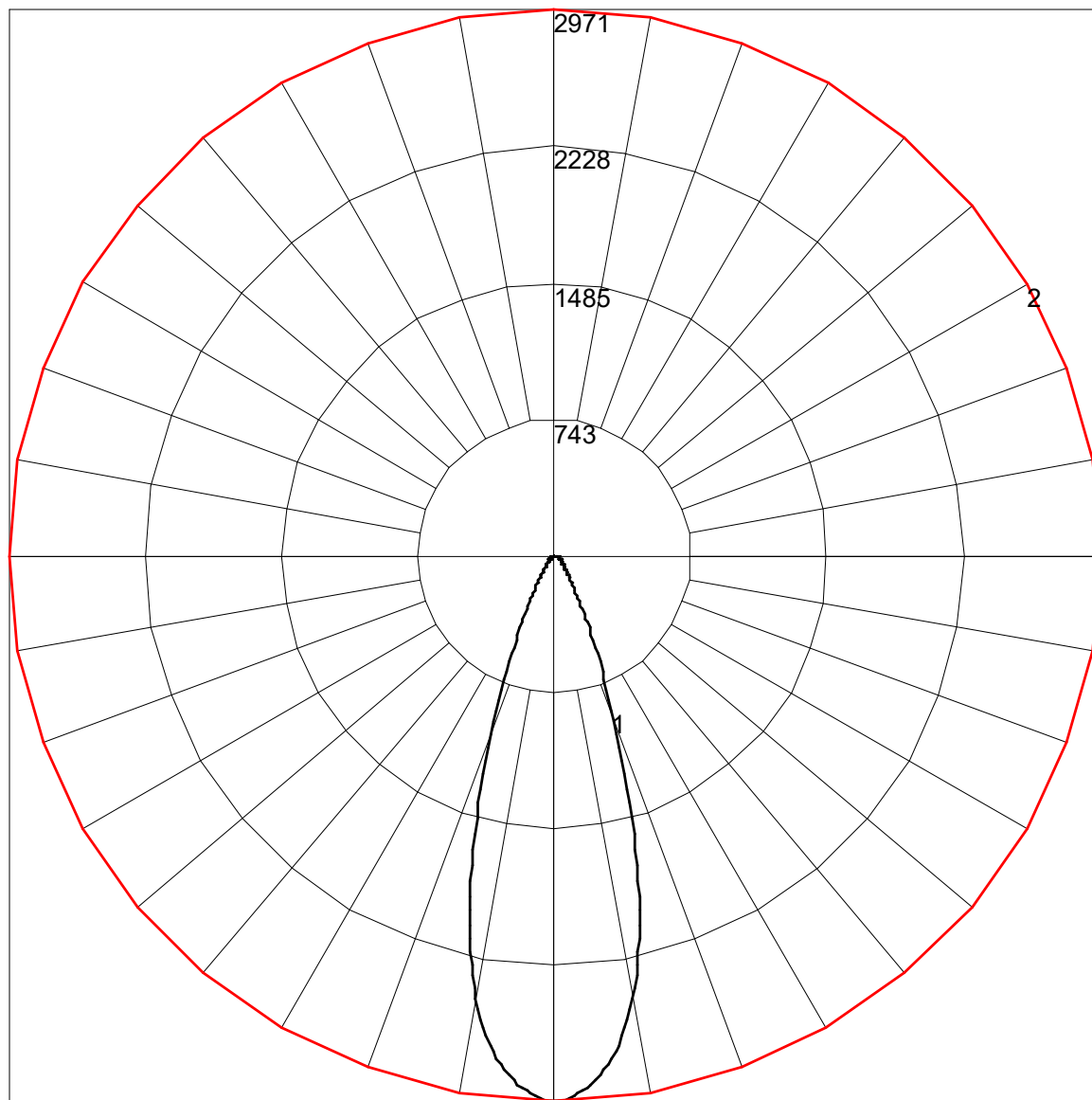
X=2H	Y=2H	12.3	13.4	12.7	13.7	14.0	12.3	13.4	12.7	13.7	14.0
	3H	13.8	14.7	14.2	15.0	15.4	13.8	14.7	14.2	15.0	15.4
	4H	14.3	15.1	14.7	15.5	15.9	14.3	15.1	14.7	15.5	15.9
	6H	14.6	15.4	15.0	15.8	16.2	14.6	15.4	15.0	15.8	16.2
	8H	14.7	15.4	15.2	15.8	16.2	14.7	15.4	15.2	15.8	16.2
	12H	14.7	15.4	15.2	15.8	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	15.1	15.7	15.5	16.1	16.5	15.1	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	16.1	16.1	16.5	17.0	15.6	16.1	16.1	16.5	17.0
8H	4H	15.2	15.7	15.7	16.2	16.6	15.2	15.7	15.7	16.2	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	16.3	16.4	16.8	17.3	15.9	16.3	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	15.8	16.1	16.3	16.6	17.1	15.8	16.1	16.3	16.6	17.1
	8H	15.9	16.3	16.5	16.7	17.3	15.9	16.3	16.5	16.7	17.3

Maximum UGR = 17.4

POLAR GRAPH



Maximum Candela = 2970.88 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.)