



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from 12316380.14
 [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-RM-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	1149
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)	0.52
Spacing Criterion (90-270)	0.52
Spacing Criterion (Diagonal)	0.52
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	6592	6592	6592
55	4585	4585	4585
65	3273	3273	3273
75	2191	2191	2191
85	1787	1787	1787

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CANDELA TABULATION

	<u>0</u>
0.0	3312.640
0.5	3310.080
1.0	3302.400
1.5	3290.240
2.0	3273.600
2.5	3252.480
3.0	3227.520
3.5	3198.080
4.0	3164.160
4.5	3127.680
5.0	3087.360
5.5	3042.560
6.0	2994.560
6.5	2943.360
7.0	2888.320
7.5	2829.440
8.0	2768.000
8.5	2702.720
9.0	2635.520
9.5	2565.760
10.0	2493.440
10.5	2419.200
11.0	2343.040
11.5	2265.600
12.0	2186.880
12.5	2108.800
13.0	2030.720
13.5	1952.000
14.0	1872.640
14.5	1793.280
15.0	1715.200
15.5	1637.760
16.0	1560.320
16.5	1484.800
17.0	1409.920
17.5	1336.320
18.0	1264.000
18.5	1193.600
19.0	1126.400
19.5	1060.480
20.0	996.480
20.5	935.680
21.0	876.800
21.5	820.480
22.0	767.360
22.5	716.800
23.0	669.440
23.5	624.128
24.0	581.248
24.5	540.864
25.0	503.104
25.5	467.968
26.0	435.200
26.5	404.480

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

27.0	375.936
27.5	349.504
28.0	324.928
28.5	302.016
29.0	281.024
29.5	261.440
30.0	243.328
30.5	226.688
31.0	211.328
31.5	197.120
32.0	184.000
32.5	171.968
33.0	160.832
33.5	150.464
34.0	140.992
34.5	132.160
35.0	124.032
35.5	116.544
36.0	109.568
36.5	103.168
37.0	97.216
37.5	91.840
38.0	86.848
38.5	82.368
39.0	78.208
39.5	74.432
40.0	71.040
40.5	67.840
41.0	64.960
41.5	62.272
42.0	59.776
42.5	57.472
43.0	55.296
43.5	53.248
44.0	51.328
44.5	49.536
45.0	47.872
45.5	46.336
46.0	44.864
46.5	43.456
47.0	42.112
47.5	40.896
48.0	39.744
48.5	38.592
49.0	37.504
49.5	36.480
50.0	35.520
50.5	34.560
51.0	33.664
51.5	32.704
52.0	31.872
52.5	30.976
53.0	30.208
53.5	29.376
54.0	28.544
54.5	27.776

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55.0	27.008
55.5	26.240
56.0	25.536
56.5	24.832
57.0	24.128
57.5	23.424
58.0	22.720
58.5	22.080
59.0	21.440
59.5	20.800
60.0	20.160
60.5	19.520
61.0	18.880
61.5	18.304
62.0	17.664
62.5	17.088
63.0	16.448
63.5	15.872
64.0	15.296
64.5	14.720
65.0	14.208
65.5	13.632
66.0	13.120
66.5	12.544
67.0	12.032
67.5	11.520
68.0	11.008
68.5	10.560
69.0	10.048
69.5	9.600
70.0	9.152
70.5	8.768
71.0	8.384
71.5	8.000
72.0	7.616
72.5	7.296
73.0	6.976
73.5	6.656
74.0	6.400
74.5	6.080
75.0	5.824
75.5	5.568
76.0	5.312
76.5	5.120
77.0	4.864
77.5	4.608
78.0	4.416
78.5	4.160
79.0	3.968
79.5	3.776
80.0	3.520
80.5	3.328
81.0	3.136
81.5	2.944
82.0	2.688
82.5	2.496

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

83.0	2.304
83.5	2.112
84.0	1.920
84.5	1.728
85.0	1.600
85.5	1.408
86.0	1.216
86.5	1.024
87.0	0.896
87.5	0.768
88.0	0.640
88.5	0.512
89.0	0.448
89.5	0.320
90.0	0.256
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-RM-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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L13-8TW-XXX-DIM-UNV-RM-WH-XX_4000K.IES****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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Zone	Lumens	%Lamp	%Fixt
0-20	741.26	N.A.	64.50
0-30	981.82	N.A.	85.40
0-40	1064.36	N.A.	92.60
0-60	1126.76	N.A.	98.10
0-80	1147.25	N.A.	99.80
0-90	1149.07	N.A.	100.00
10-90	873.48	N.A.	76.00
20-40	323.11	N.A.	28.10
20-50	361.17	N.A.	31.40
40-70	76.56	N.A.	6.70
60-80	20.49	N.A.	1.80
70-80	6.33	N.A.	0.60
80-90	1.82	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	1149.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	275.58
10-20	465.67
20-30	240.56
30-40	82.54
40-50	38.06
50-60	24.34
60-70	14.16
70-80	6.33
80-90	1.82
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	112	109	107	112	109	107	106	105	104	102	102	101	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	92	103	98	94	91	95	92	89	93	90	88	91	89	87	85
4	101	94	90	86	99	93	89	85	91	87	84	89	86	83	87	85	83	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74
7	90	82	77	74	89	81	77	73	80	76	73	79	75	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	73	70	75	72	69	68
9	84	76	71	68	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	64	63

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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	9.9	10.9	10.3	11.2	11.5	9.9	10.9	10.3	11.2	11.5
	3H	10.9	11.7	11.2	12.1	12.4	10.9	11.7	11.2	12.1	12.4
	4H	11.2	12.0	11.6	12.3	12.7	11.2	12.0	11.6	12.3	12.7
	6H	11.4	12.1	11.8	12.5	12.9	11.4	12.1	11.8	12.5	12.9
	8H	11.4	12.1	11.9	12.5	12.9	11.4	12.1	11.9	12.5	12.9
	12H	11.5	12.1	11.9	12.5	12.9	11.5	12.1	11.9	12.5	12.9

UGR Viewed Endwise

4H	2H	10.2	11.0	10.6	11.4	11.7	10.2	11.0	10.6	11.4	11.7
	3H	11.3	12.0	11.7	12.4	12.8	11.3	12.0	11.7	12.4	12.8
	4H	11.7	12.3	12.1	12.7	13.1	11.7	12.3	12.1	12.7	13.1
	6H	12.0	12.5	12.5	12.9	13.4	12.0	12.5	12.5	12.9	13.4
	8H	12.1	12.6	12.6	13.0	13.5	12.1	12.6	12.6	13.0	13.5
	12H	12.1	12.5	12.6	13.0	13.5	12.1	12.5	12.6	13.0	13.5

8H	4H	11.8	12.2	12.2	12.7	13.1	11.8	12.2	12.2	12.7	13.1
	6H	12.2	12.5	12.7	13.0	13.5	12.2	12.5	12.7	13.0	13.5
	8H	12.3	12.6	12.9	13.2	13.7	12.3	12.6	12.9	13.2	13.7
	12H	12.4	12.7	13.0	13.2	13.8	12.4	12.7	13.0	13.2	13.8

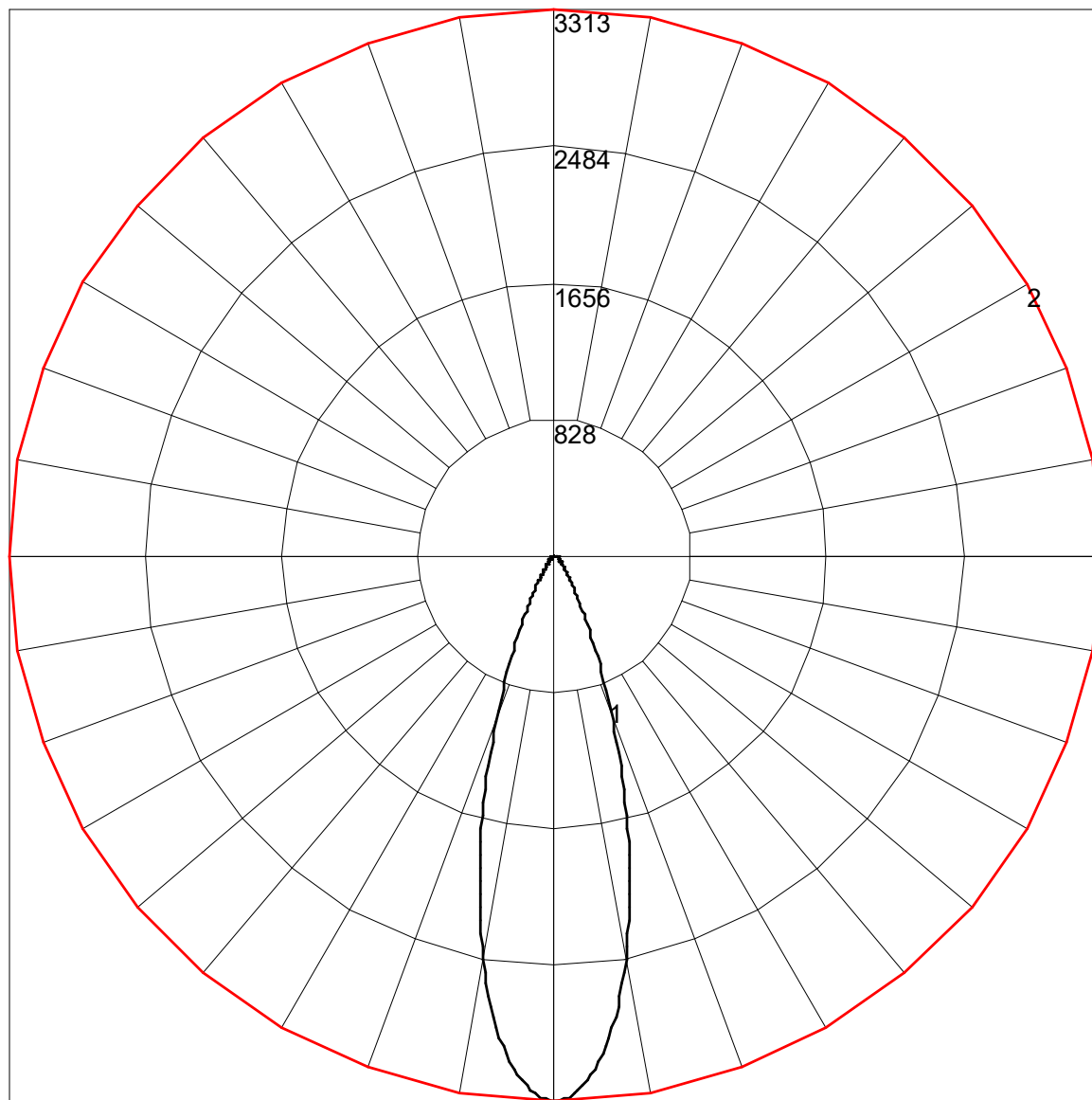
12H	4H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1
	6H	12.2	12.5	12.7	13.0	13.5	12.2	12.5	12.7	13.0	13.5
	8H	12.4	12.6	12.9	13.1	13.7	12.4	12.6	12.9	13.1	13.7

Maximum UGR = 13.8

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POLAR GRAPH



Maximum Candela = 3312.64 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.)