



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L22-8TW-XXX-DIM-UNV-LW-WH-XX_4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.07
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 28-JAN-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 6CR-TL-L22-8TW-xxx-DIM-UNV-LW-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	1781
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	74
Total Luminaire Watts	24
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	49137	49137	49137
55	40376	40376	40376
65	29538	29538	29538
75	20448	20448	20448
85	11147	11147	11147

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L22-8TW-XXX-DIM-UNV-LW-WH-XX_4000K.IES****CANDELA TABULATION**

	<u>0</u>
0.0	1250.784
0.5	1250.389
1.0	1249.598
1.5	1248.544
2.0	1247.491
2.5	1246.305
3.0	1244.724
3.5	1243.802
4.0	1243.144
4.5	1242.748
5.0	1242.221
5.5	1241.694
6.0	1241.299
6.5	1240.772
7.0	1240.377
7.5	1240.114
8.0	1239.982
8.5	1239.587
9.0	1239.192
9.5	1238.401
10.0	1237.874
10.5	1236.952
11.0	1236.030
11.5	1234.844
12.0	1233.527
12.5	1231.946
13.0	1230.102
13.5	1227.994
14.0	1225.360
14.5	1222.198
15.0	1218.378
15.5	1213.768
16.0	1208.630
16.5	1202.570
17.0	1195.984
17.5	1188.607
18.0	1179.913
18.5	1170.955
19.0	1161.207
19.5	1150.273
20.0	1138.286
20.5	1125.244
21.0	1111.149
21.5	1096.000
22.0	1079.270
22.5	1061.487
23.0	1042.386
23.5	1021.836
24.0	999.705
24.5	976.125
25.0	950.569
25.5	923.828
26.0	895.242
26.5	864.944

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L22-8TW-XXX-DIM-UNV-LW-WH-XX_4000K.IES****CANDELA TABULATION - (Cont.)**

27.0	833.592
27.5	800.923
28.0	767.727
28.5	734.399
29.0	701.730
29.5	669.719
30.0	638.894
30.5	609.914
31.0	582.777
31.5	558.012
32.0	535.486
32.5	515.199
33.0	497.152
33.5	481.081
34.0	466.722
34.5	454.076
35.0	442.615
35.5	432.209
36.0	422.988
36.5	414.293
37.0	406.390
37.5	399.013
38.0	392.163
38.5	385.576
39.0	379.516
39.5	373.589
40.0	368.056
40.5	362.523
41.0	357.254
41.5	352.116
42.0	347.242
42.5	342.368
43.0	337.494
43.5	332.620
44.0	327.746
44.5	322.872
45.0	317.998
45.5	313.124
46.0	308.250
46.5	303.376
47.0	298.239
47.5	293.101
48.0	287.964
48.5	282.694
49.0	277.293
49.5	271.892
50.0	266.623
50.5	261.222
51.0	255.821
51.5	250.420
52.0	245.151
52.5	239.882
53.0	234.481
53.5	228.948
54.0	223.284
54.5	217.619

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L22-8TW-XXX-DIM-UNV-LW-WH-XX_4000K.IES****CANDELA TABULATION - (Cont.)**

55.0	211.955
55.5	206.290
56.0	200.758
56.5	195.357
57.0	189.956
57.5	184.555
58.0	179.286
58.5	174.148
59.0	169.011
59.5	164.005
60.0	159.131
60.5	154.257
61.0	149.514
61.5	144.904
62.0	140.293
62.5	135.683
63.0	131.283
63.5	126.909
64.0	122.615
64.5	118.386
65.0	114.250
65.5	110.219
66.0	106.241
66.5	102.368
67.0	98.587
67.5	94.873
68.0	91.276
68.5	87.759
69.0	84.242
69.5	80.843
70.0	77.537
70.5	74.283
71.0	71.108
71.5	68.013
72.0	65.022
72.5	62.072
73.0	59.200
73.5	56.407
74.0	53.667
74.5	51.019
75.0	48.437
75.5	45.935
76.0	43.484
76.5	41.100
77.0	38.821
77.5	36.555
78.0	34.369
78.5	32.248
79.0	30.166
79.5	28.164
80.0	26.201
80.5	24.291
81.0	22.407
81.5	20.576
82.0	18.785
82.5	17.046

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83.0	15.320
83.5	13.647
84.0	12.014
84.5	10.420
85.0	8.892
85.5	7.416
86.0	6.007
86.5	4.676
87.0	3.504
87.5	2.529
88.0	1.765
88.5	1.120
89.0	0.698
89.5	0.474
90.0	0.329
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-L22-8TW-XXX-DIM-UNV-LW-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-L22-8TW-XXX-DIM-UNV-LW-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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L22-8TW-XXX-DIM-UNV-LW-WH-XX_4000K.IES****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	459.44	N.A.	25.80
0-30	881.25	N.A.	49.50
0-40	1168.58	N.A.	65.60
0-60	1602.91	N.A.	90.00
0-80	1769.4	N.A.	99.40
0-90	1780.54	N.A.	100.00
10-90	1662.07	N.A.	93.30
20-40	709.14	N.A.	39.80
20-50	954.04	N.A.	53.60
40-70	548.57	N.A.	30.80
60-80	166.50	N.A.	9.40
70-80	52.26	N.A.	2.90
80-90	11.14	N.A.	0.60
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	1780.55	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	118.47
10-20	340.96
20-30	421.81
30-40	287.33
40-50	244.90
50-60	189.43
60-70	114.24
70-80	52.26
80-90	11.14
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	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	22.6	24.0	23.0	24.3	24.6	22.6	24.0	23.0	24.3	24.6
	3H	23.7	24.9	24.1	25.3	25.6	23.7	24.9	24.1	25.3	25.6
	4H	24.1	25.2	24.5	25.6	25.9	24.1	25.2	24.5	25.6	25.9
	6H	24.3	25.3	24.7	25.7	26.1	24.3	25.3	24.7	25.7	26.1
	8H	24.3	25.3	24.8	25.7	26.1	24.3	25.3	24.8	25.7	26.1
	12H	24.3	25.3	24.8	25.7	26.1	24.3	25.3	24.8	25.7	26.1

UGR Viewed Endwise

4H	2H	23.0	24.1	23.4	24.5	24.8	23.0	24.1	23.4	24.5	24.8
	3H	24.3	25.2	24.7	25.6	26.0	24.3	25.2	24.7	25.6	26.0
	4H	24.7	25.6	25.1	26.0	26.4	24.7	25.6	25.1	26.0	26.4
	6H	25.0	25.8	25.5	26.2	26.7	25.0	25.8	25.5	26.2	26.7
	8H	25.1	25.8	25.6	26.2	26.7	25.1	25.8	25.6	26.2	26.7
	12H	25.1	25.7	25.6	26.2	26.7	25.1	25.7	25.6	26.2	26.7

8H	4H	24.8	25.5	25.3	26.0	26.4	24.8	25.5	25.3	26.0	26.4
	6H	25.2	25.8	25.7	26.3	26.8	25.2	25.8	25.7	26.3	26.8
	8H	25.3	25.8	25.9	26.4	26.8	25.3	25.8	25.9	26.4	26.8
	12H	25.4	25.9	25.9	26.3	26.9	25.4	25.9	25.9	26.3	26.9

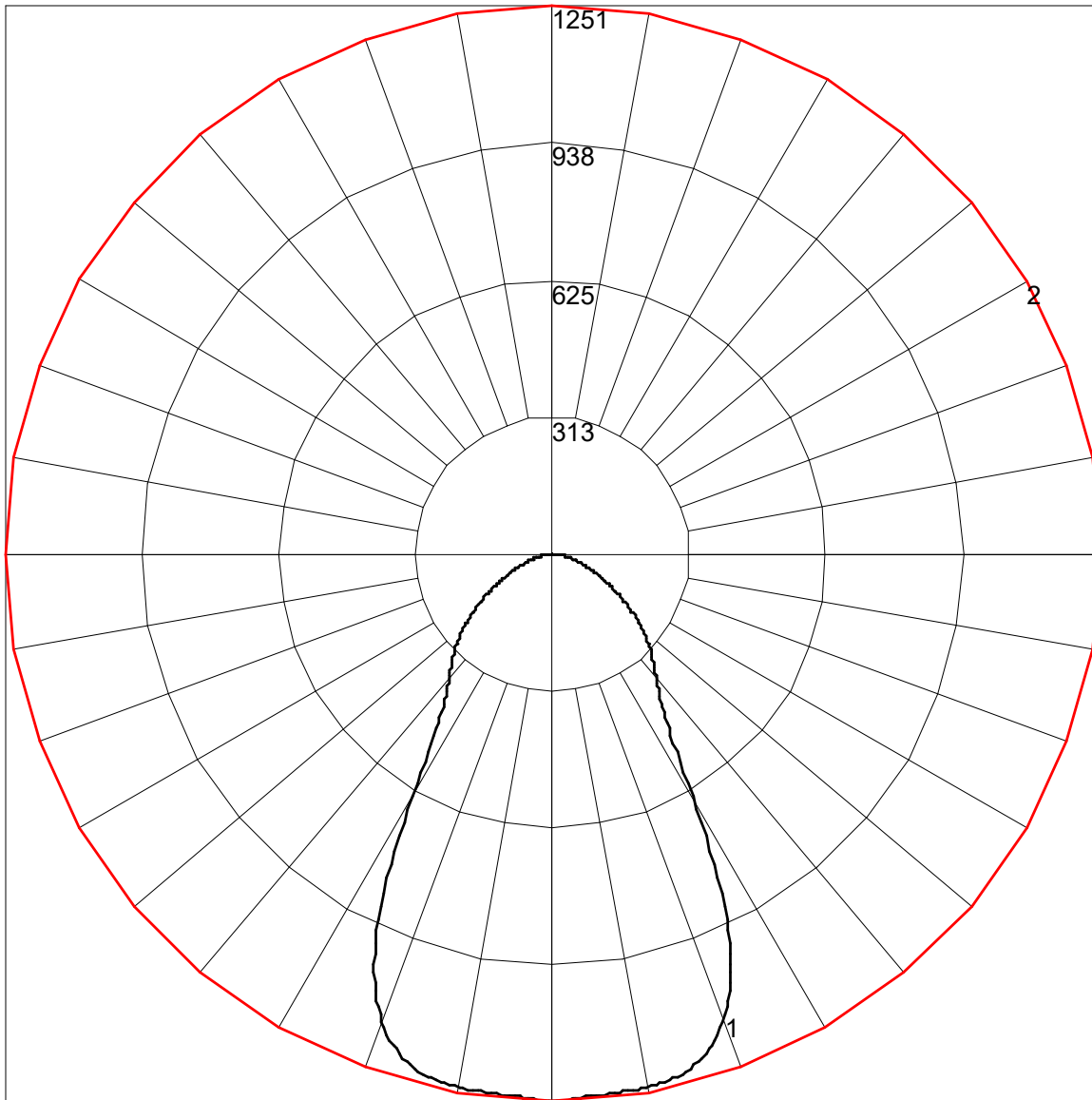
12H	4H	24.8	25.4	25.3	25.9	26.4	24.8	25.4	25.3	25.9	26.4
	6H	25.2	25.7	25.8	26.2	26.7	25.2	25.7	25.8	26.2	26.7
	8H	25.4	25.8	25.9	26.3	26.9	25.4	25.8	25.9	26.3	26.9

Maximum UGR = 26.9

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POLAR GRAPH



Maximum Candela = 1250.784 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.)