



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-P28-8TW-XXX-POE-RW-WH-XX\_4000K.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12316380.12  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUE DATE] 28-JAN-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 6CR-TL-P28-8TW-xxx-POE-RW-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	2084
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	83
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
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	48194	48194	48194
55	38914	38914	38914
65	25174	25174	25174
75	14038	14038	14038
85	7211	7211	7211

CANDELA TABULATION

	<u>0</u>
0.0	1673.643
0.5	1673.643
1.0	1672.068
1.5	1668.919
2.0	1665.770
2.5	1662.621
3.0	1657.898
3.5	1653.175
4.0	1648.451
4.5	1642.153
5.0	1637.430
5.5	1631.132
6.0	1624.835
6.5	1618.537
7.0	1612.239
7.5	1605.941
8.0	1599.643
8.5	1591.771
9.0	1585.473
9.5	1579.175
10.0	1573.192
10.5	1566.737
11.0	1560.125
11.5	1553.669
12.0	1547.529
12.5	1541.389
13.0	1535.248
13.5	1528.950
14.0	1522.653
14.5	1516.355
15.0	1509.900
15.5	1503.287
16.0	1496.359
16.5	1489.432
17.0	1482.347
17.5	1474.789
18.0	1466.760
18.5	1458.100
19.0	1449.755
19.5	1440.781
20.0	1431.019
20.5	1419.841
21.0	1406.930
21.5	1392.918
22.0	1376.858
22.5	1359.067
23.0	1338.914
23.5	1316.242
24.0	1291.366
24.5	1263.183
25.0	1231.694
25.5	1196.898
26.0	1159.269
26.5	1119.278

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-P28-8TW-XXX-POE-RW-WH-XX\_4000K.IES****CANDELA TABULATION - (Cont.)**

27.0	1077.240
27.5	1034.572
28.0	989.858
28.5	945.616
29.0	901.531
29.5	857.447
30.0	814.149
30.5	771.639
31.0	731.490
31.5	692.601
32.0	655.917
32.5	621.751
33.0	590.105
33.5	561.607
34.0	535.943
34.5	513.586
35.0	493.906
35.5	477.216
36.0	462.574
36.5	450.293
37.0	439.430
37.5	430.140
38.0	421.638
38.5	414.081
39.0	407.311
39.5	401.170
40.0	395.660
40.5	390.464
41.0	385.426
41.5	380.860
42.0	376.294
42.5	372.043
43.0	367.792
43.5	363.384
44.0	358.975
44.5	354.567
45.0	350.001
45.5	345.277
46.0	340.397
46.5	335.358
47.0	330.163
47.5	324.809
48.0	319.456
48.5	313.788
49.0	307.963
49.5	301.822
50.0	295.682
50.5	289.384
51.0	282.772
51.5	276.316
52.0	269.704
52.5	263.091
53.0	256.793
53.5	249.866
54.0	242.938
54.5	236.010

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-P28-8TW-XXX-POE-RW-WH-XX\_4000K.IES****CANDELA TABULATION - (Cont.)**

55.0	229.240
55.5	222.313
56.0	215.542
56.5	208.930
57.0	202.317
57.5	195.704
58.0	189.249
58.5	182.951
59.0	176.654
59.5	170.513
60.0	164.373
60.5	158.390
61.0	152.564
61.5	146.739
62.0	141.228
62.5	135.560
63.0	130.207
63.5	124.697
64.0	119.501
64.5	114.305
65.0	109.267
65.5	104.229
66.0	99.348
66.5	94.625
67.0	90.059
67.5	85.493
68.0	81.084
68.5	76.676
69.0	72.425
69.5	68.331
70.0	64.553
70.5	60.931
71.0	57.625
71.5	54.476
72.0	51.485
72.5	48.651
73.0	45.974
73.5	43.612
74.0	41.251
74.5	39.204
75.0	37.315
75.5	35.583
76.0	33.693
76.5	31.961
77.0	30.229
77.5	28.498
78.0	26.923
78.5	25.191
79.0	23.617
79.5	22.042
80.0	20.468
80.5	18.893
81.0	17.476
81.5	16.059
82.0	14.485
82.5	13.225

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-P28-8TW-XXX-POE-RW-WH-XX\_4000K.IES****CANDELA TABULATION - (Cont.)**

83.0	11.808
83.5	10.391
84.0	9.132
84.5	7.715
85.0	6.455
85.5	5.353
86.0	4.251
86.5	3.464
87.0	2.677
87.5	2.047
88.0	1.417
88.5	0.945
89.0	0.472
89.5	0.157
90.0	0.000
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-P28-8TW-XXX-POE-RW-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

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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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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-P28-8TW-XXX-POE-RW-WH-XX\_4000K.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	579.31	N.A.	27.80
0-30	1121.03	N.A.	53.80
0-40	1451.15	N.A.	69.60
0-60	1924.44	N.A.	92.40
0-80	2075.03	N.A.	99.60
0-90	2083.55	N.A.	100.00
10-90	1929.4	N.A.	92.60
20-40	871.84	N.A.	41.80
20-50	1140.44	N.A.	54.70
40-70	582.76	N.A.	28.00
60-80	150.59	N.A.	7.20
70-80	41.12	N.A.	2.00
80-90	8.52	N.A.	0.40
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	2083.55	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	154.14
10-20	425.16
20-30	541.72
30-40	330.12
40-50	268.59
50-60	204.70
60-70	109.47
70-80	41.12
80-90	8.52
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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	44	66	56	49	44	54	48	44	54	48	44	53	48	44	42
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	45	41	39

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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	22.2	23.5	22.5	23.8	24.1	22.2	23.5	22.5	23.8	24.1
	3H	22.9	24.1	23.3	24.4	24.8	22.9	24.1	23.3	24.4	24.8
	4H	23.1	24.2	23.5	24.5	24.9	23.1	24.2	23.5	24.5	24.9
	6H	23.2	24.2	23.6	24.6	25.0	23.2	24.2	23.6	24.6	25.0
	8H	23.2	24.2	23.6	24.5	25.0	23.2	24.2	23.6	24.5	25.0
	12H	23.2	24.1	23.6	24.5	24.9	23.2	24.1	23.6	24.5	24.9

### UGR Viewed Endwise

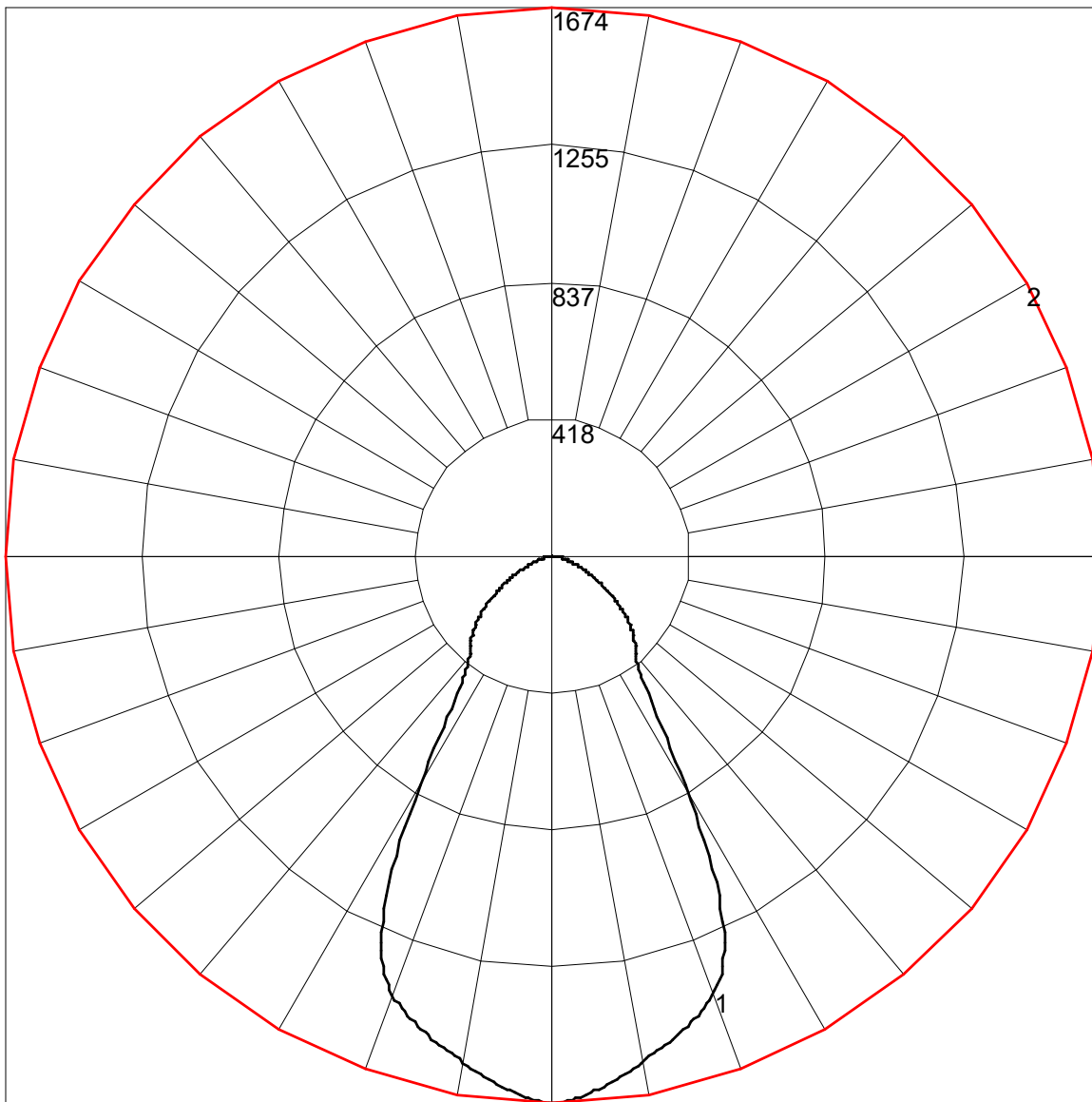
4H	2H	22.4	23.5	22.8	23.9	24.3	22.4	23.5	22.8	23.9	24.3
	3H	23.3	24.2	23.7	24.6	25.0	23.3	24.2	23.7	24.6	25.0
	4H	23.5	24.4	24.0	24.8	25.2	23.5	24.4	24.0	24.8	25.2
	6H	23.7	24.4	24.2	24.9	25.3	23.7	24.4	24.2	24.9	25.3
	8H	23.8	24.4	24.2	24.9	25.3	23.8	24.4	24.2	24.9	25.3
	12H	23.8	24.3	24.3	24.8	25.3	23.8	24.3	24.3	24.8	25.3

8H	4H	23.6	24.2	24.1	24.7	25.2	23.6	24.2	24.1	24.7	25.2
	6H	23.8	24.4	24.3	24.9	25.3	23.8	24.4	24.3	24.9	25.3
	8H	23.9	24.4	24.4	24.9	25.4	23.9	24.4	24.4	24.9	25.4
	12H	23.9	24.3	24.4	24.8	25.4	23.9	24.3	24.4	24.8	25.4

12H	4H	23.6	24.1	24.1	24.6	25.1	23.6	24.1	24.1	24.6	25.1
	6H	23.8	24.3	24.3	24.8	25.3	23.8	24.3	24.3	24.8	25.3
	8H	23.9	24.3	24.4	24.8	25.4	23.9	24.3	24.4	24.8	25.4

Maximum UGR = 25.4

POLAR GRAPH



Maximum Candela = 1673.643 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.)