



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.22
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 26-JAN-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 6CR-TL-L20-830-xxx-DIM-UNV-OM-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	1711
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	19.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.74
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	4193	4193	4193
55	1225	1225	1225
65	438	438	438
75	200	200	200
85	149	149	149

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

CANDELA TABULATION

	<u>0</u>
0.0	3587.421
0.5	3593.617
1.0	3596.273
1.5	3594.502
2.0	3588.307
2.5	3579.455
3.0	3560.425
3.5	3538.297
4.0	3507.317
4.5	3466.602
5.0	3414.822
5.5	3351.978
6.0	3287.806
6.5	3212.127
7.0	3132.023
7.5	3047.494
8.0	2960.309
8.5	2873.124
9.0	2786.381
9.5	2700.966
10.0	2618.649
10.5	2540.758
11.0	2466.408
11.5	2397.368
12.0	2334.081
12.5	2274.335
13.0	2219.900
13.5	2169.890
14.0	2124.306
14.5	2080.935
15.0	2040.661
15.5	2002.601
16.0	1968.523
16.5	1938.429
17.0	1910.548
17.5	1884.436
18.0	1859.653
18.5	1834.869
19.0	1811.856
19.5	1789.728
20.0	1769.370
20.5	1749.454
21.0	1729.096
21.5	1708.296
22.0	1685.283
22.5	1660.499
23.0	1633.503
23.5	1604.293
24.0	1571.986
24.5	1535.696
25.0	1495.865
25.5	1451.609
26.0	1402.042
26.5	1346.279

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

CANDELA TABULATION - (Cont.)

27.0	1285.205
27.5	1218.820
28.0	1148.010
28.5	1071.889
29.0	989.572
29.5	904.600
30.0	817.415
30.5	729.788
31.0	643.488
31.5	560.728
32.0	481.067
32.5	407.645
33.0	340.597
33.5	279.567
34.0	227.389
34.5	183.620
35.0	148.524
35.5	121.484
36.0	100.949
36.5	86.034
37.0	76.342
37.5	70.191
38.0	65.809
38.5	61.915
39.0	58.418
39.5	55.232
40.0	52.223
40.5	49.434
41.0	46.823
41.5	44.345
42.0	42.088
42.5	39.875
43.0	37.795
43.5	35.803
44.0	33.900
44.5	32.130
45.0	30.448
45.5	28.811
46.0	27.218
46.5	25.624
47.0	24.075
47.5	22.526
48.0	21.022
48.5	19.650
49.0	18.322
49.5	16.994
50.0	15.711
50.5	14.428
51.0	13.365
51.5	12.348
52.0	11.418
52.5	10.577
53.0	9.781
53.5	9.073
54.0	8.364
54.5	7.789

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

CANDELA TABULATION - (Cont.)

55.0	7.214
55.5	6.683
56.0	6.284
56.5	5.798
57.0	5.399
57.5	5.045
58.0	4.735
58.5	4.426
59.0	4.116
59.5	3.895
60.0	3.629
60.5	3.408
61.0	3.186
61.5	2.965
62.0	2.832
62.5	2.611
63.0	2.478
63.5	2.301
64.0	2.169
64.5	2.036
65.0	1.903
65.5	1.815
66.0	1.682
66.5	1.637
67.0	1.505
67.5	1.416
68.0	1.328
68.5	1.239
69.0	1.151
69.5	1.106
70.0	1.062
70.5	0.974
71.0	0.885
71.5	0.885
72.0	0.797
72.5	0.752
73.0	0.664
73.5	0.620
74.0	0.575
74.5	0.575
75.0	0.531
75.5	0.487
76.0	0.487
76.5	0.443
77.0	0.398
77.5	0.398
78.0	0.354
78.5	0.310
79.0	0.310
79.5	0.310
80.0	0.266
80.5	0.221
81.0	0.266
81.5	0.221
82.0	0.221
82.5	0.221

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

CANDELA TABULATION - (Cont.)

83.0	0.177
83.5	0.177
84.0	0.133
84.5	0.133
85.0	0.133
85.5	0.133
86.0	0.133
86.5	0.089
87.0	0.089
87.5	0.089
88.0	0.089
88.5	0.089
89.0	0.089
89.5	0.089
90.0	0.044
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-L20-830-XXX-DIM-UNV-OM-WH-XX_.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-L20-830-XXX-DIM-UNV-OM-WH-XX_.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

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-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	878.93	N.A.	51.40
0-30	1524.98	N.A.	89.10
0-40	1676.76	N.A.	98.00
0-60	1707.88	N.A.	99.80
0-80	1710.5	N.A.	100.00
0-90	1710.67	N.A.	100.00
10-90	1412.27	N.A.	82.60
20-40	797.83	N.A.	46.60
20-50	821.86	N.A.	48.00
40-70	33.14	N.A.	1.90
60-80	2.62	N.A.	0.20
70-80	0.60	N.A.	0.00
80-90	0.16	N.A.	0.00
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	1710.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	298.39
10-20	580.54
20-30	646.05
30-40	151.78
40-50	24.03
50-60	7.09
60-70	2.02
70-80	0.60
80-90	0.16
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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

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	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	98	98	97	95	95	95	95
2	109	105	102	99	107	103	100	98	100	98	95	97	95	93	95	93	91	90	90	90	90
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	89	87	85	85	85	85
4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81	81	81	81
5	96	89	84	80	95	88	83	80	86	82	79	85	81	79	83	80	78	77	77	77	77
6	92	85	80	76	91	84	79	76	83	78	75	81	77	75	80	77	74	73	73	73	73
7	89	81	75	72	87	80	75	72	79	74	71	78	74	71	77	73	71	69	69	69	69
8	85	77	72	68	84	76	71	68	75	71	68	74	70	67	73	70	67	66	66	66	66
9	82	73	68	65	81	73	68	65	72	68	65	71	67	64	71	67	64	63	63	63	63
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	60	60	60

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-OM-WH-XX_.IES

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

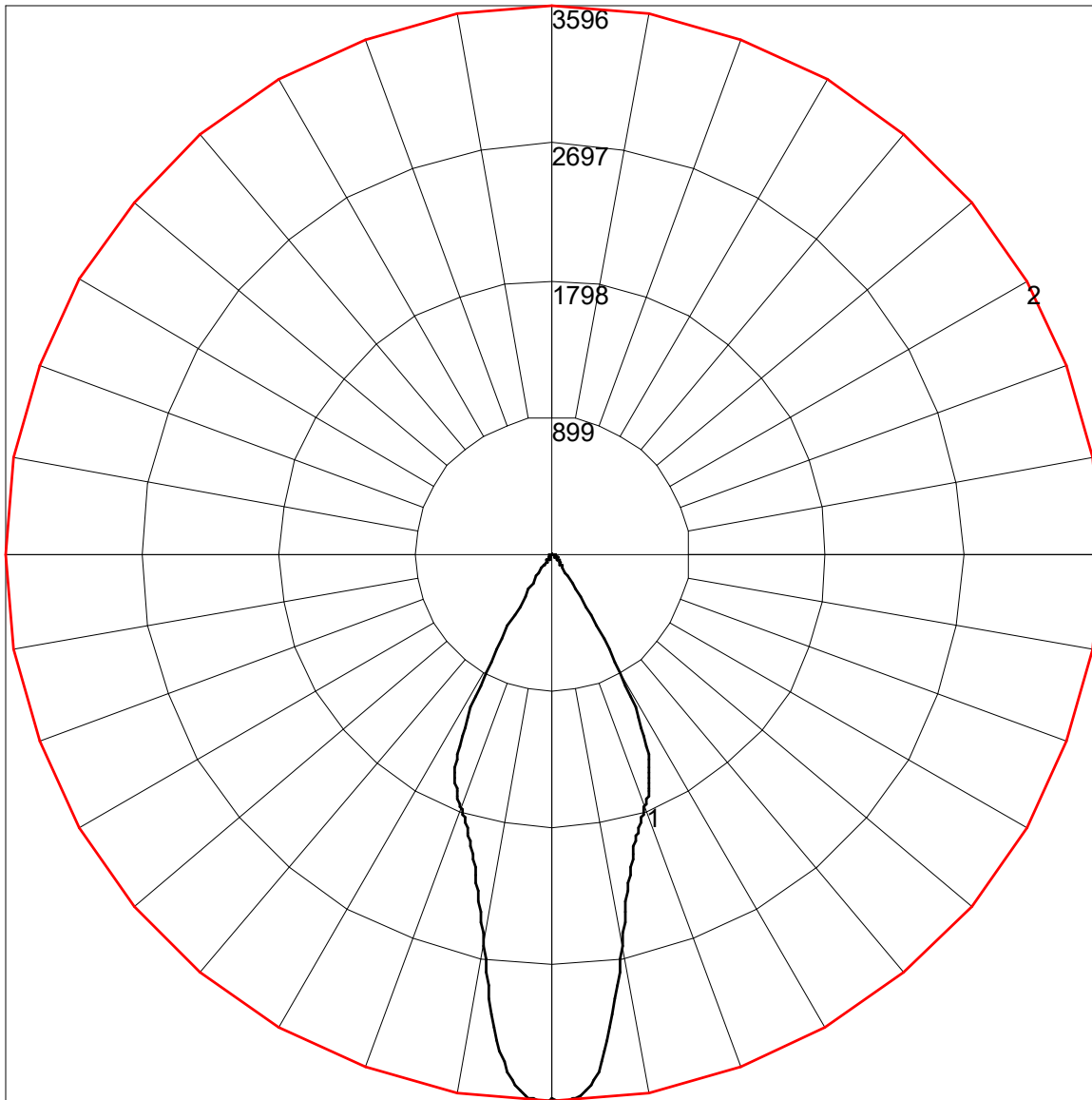
X=2H	Y=2H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	3H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	12H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

UGR Viewed Endwise

4H	2H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	3H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	12H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
8H	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	12H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
12H	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

Maximum UGR = 1.9

POLAR GRAPH



Maximum Candela = 3596.273 Located At Horizontal Angle = 0, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)