



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-RN-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.15

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 27-JAN-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 6CR-TL-L20-835-xxx-DIM-UNV-RN-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	1769
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	19.7681
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.46
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	8854	8854	8854
55	5890	5890	5890
65	4055	4055	4055
75	2633	2633	2633
85	2123	2123	2123

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CANDELA TABULATION

	<u>0</u>
0.0	6635.0
0.5	6627.0
1.0	6606.0
1.5	6569.0
2.0	6519.0
2.5	6456.0
3.0	6381.0
3.5	6295.0
4.0	6198.0
4.5	6091.0
5.0	5975.0
5.5	5850.0
6.0	5716.0
6.5	5572.0
7.0	5420.0
7.5	5262.0
8.0	5098.0
8.5	4927.0
9.0	4753.0
9.5	4574.0
10.0	4394.0
10.5	4211.0
11.0	4027.0
11.5	3843.0
12.0	3660.0
12.5	3480.0
13.0	3301.0
13.5	3126.0
14.0	2954.0
14.5	2787.0
15.0	2626.0
15.5	2471.0
16.0	2320.0
16.5	2177.0
17.0	2040.0
17.5	1909.0
18.0	1785.0
18.5	1667.0
19.0	1556.0
19.5	1452.0
20.0	1354.0
20.5	1261.0
21.0	1174.0
21.5	1094.0
22.0	1017.0
22.5	944.8
23.0	876.0
23.5	812.3
24.0	752.9
24.5	697.3
25.0	645.4
25.5	597.2
26.0	552.8
26.5	511.7

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CANDELA TABULATION - (Cont.)

27.0	473.8
27.5	438.9
28.0	406.8
28.5	377.6
29.0	350.7
29.5	326.0
30.0	303.3
30.5	282.3
31.0	263.2
31.5	245.6
32.0	229.3
32.5	214.3
33.0	200.6
33.5	188.0
34.0	176.3
34.5	165.6
35.0	155.9
35.5	146.9
36.0	138.7
36.5	131.2
37.0	124.3
37.5	118.0
38.0	112.2
38.5	106.9
39.0	102.1
39.5	97.6
40.0	93.4
40.5	89.5
41.0	85.9
41.5	82.5
42.0	79.4
42.5	76.5
43.0	73.7
43.5	71.1
44.0	68.7
44.5	66.4
45.0	64.3
45.5	62.2
46.0	60.3
46.5	58.4
47.0	56.6
47.5	54.8
48.0	53.1
48.5	51.5
49.0	49.9
49.5	48.4
50.0	46.9
50.5	45.5
51.0	44.1
51.5	42.8
52.0	41.5
52.5	40.3
53.0	39.1
53.5	37.9
54.0	36.8
54.5	35.8

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CANDELA TABULATION - (Cont.)

55.0	34.7
55.5	33.7
56.0	32.7
56.5	31.7
57.0	30.8
57.5	29.9
58.0	28.9
58.5	28.0
59.0	27.2
59.5	26.3
60.0	25.4
60.5	24.6
61.0	23.8
61.5	23.0
62.0	22.2
62.5	21.4
63.0	20.6
63.5	19.8
64.0	19.1
64.5	18.4
65.0	17.6
65.5	16.9
66.0	16.2
66.5	15.5
67.0	14.9
67.5	14.2
68.0	13.6
68.5	12.9
69.0	12.3
69.5	11.7
70.0	11.1
70.5	10.6
71.0	10.1
71.5	9.6
72.0	9.2
72.5	8.7
73.0	8.3
73.5	8.0
74.0	7.6
74.5	7.3
75.0	7.0
75.5	6.7
76.0	6.4
76.5	6.1
77.0	5.8
77.5	5.5
78.0	5.3
78.5	5.0
79.0	4.7
79.5	4.5
80.0	4.2
80.5	3.9
81.0	3.7
81.5	3.4
82.0	3.2
82.5	3.0

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CANDELA TABULATION - (Cont.)

83.0	2.7
83.5	2.5
84.0	2.3
84.5	2.1
85.0	1.9
85.5	1.7
86.0	1.4
86.5	1.3
87.0	1.1
87.5	0.9
88.0	0.7
88.5	0.5
89.0	0.4
89.5	0.3
90.0	0.2
90.5	0.2
91.0	0.1
91.5	0.0
92.0	0.1
92.5	0.1
93.0	0.1
93.5	0.1
94.0	0.0
94.5	0.1
95.0	0.1
95.5	0.0
96.0	0.0
96.5	0.0
97.0	0.0
97.5	0.0
98.0	0.0
98.5	0.0
99.0	0.0
99.5	0.0
100.0	0.0
100.5	0.0
101.0	0.0
101.5	0.0
102.0	0.0
102.5	0.1
103.0	0.0
103.5	0.1
104.0	0.1
104.5	0.1
105.0	0.1
105.5	0.1
106.0	0.1
106.5	0.1
107.0	0.1
107.5	0.0
108.0	0.1
108.5	0.1
109.0	0.1
109.5	0.1
110.0	0.1
110.5	0.1

CANDELA TABULATION - (Cont.)

111.0	0.1
111.5	0.1
112.0	0.1
112.5	0.1
113.0	0.1
113.5	0.1
114.0	0.1
114.5	0.1
115.0	0.1
115.5	0.1
116.0	0.1
116.5	0.1
117.0	0.1
117.5	0.1
118.0	0.1
118.5	0.1
119.0	0.1
119.5	0.1
120.0	0.1
120.5	0.1
121.0	0.1
121.5	0.1
122.0	0.1
122.5	0.1
123.0	0.1
123.5	0.1
124.0	0.1
124.5	0.1
125.0	0.1
125.5	0.1
126.0	0.1
126.5	0.1
127.0	0.1
127.5	0.1
128.0	0.1
128.5	0.1
129.0	0.1
129.5	0.1
130.0	0.1
130.5	0.1
131.0	0.2
131.5	0.2
132.0	0.2
132.5	0.2
133.0	0.2
133.5	0.2
134.0	0.2
134.5	0.2
135.0	0.3
135.5	0.3
136.0	0.3
136.5	0.3
137.0	0.3
137.5	0.4
138.0	0.4
138.5	0.4

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139.0	0.4
139.5	0.5
140.0	0.5
140.5	0.5
141.0	0.6
141.5	0.6
142.0	0.6
142.5	0.7
143.0	0.7
143.5	0.7
144.0	0.8
144.5	0.8
145.0	0.9
145.5	0.9
146.0	1.0
146.5	1.0
147.0	1.1
147.5	1.1
148.0	1.2
148.5	1.2
149.0	1.3
149.5	1.3
150.0	1.4
150.5	1.4
151.0	1.5
151.5	1.5
152.0	1.6
152.5	1.6
153.0	1.7
153.5	1.7
154.0	1.8
154.5	1.8
155.0	1.9
155.5	1.9
156.0	2.0
156.5	2.0
157.0	2.0
157.5	2.1
158.0	2.1
158.5	2.2
159.0	2.2
159.5	2.2
160.0	2.3
160.5	2.3
161.0	2.3
161.5	2.3
162.0	2.4
162.5	2.4
163.0	2.4
163.5	2.4
164.0	2.4
164.5	2.4
165.0	2.4
165.5	2.4
166.0	2.5
166.5	2.4

CANDELA TABULATION - (Cont.)

167.0	2.5
167.5	2.5
168.0	2.5
168.5	2.4
169.0	2.4
169.5	2.4
170.0	2.4
170.5	2.4
171.0	2.4
171.5	2.4
172.0	2.4
172.5	2.4
173.0	2.4
173.5	2.4
174.0	2.4
174.5	2.4
175.0	2.4
175.5	2.4
176.0	2.4
176.5	2.4
177.0	2.4
177.5	2.3
178.0	2.3
178.5	2.3
179.0	2.3
179.5	2.3
180.0	2.3

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Zone	Lumens	%Lamp	%Fixt
0-20	1240.44	N.A.	70.10
0-30	1552.81	N.A.	87.80
0-40	1656.9	N.A.	93.70
0-60	1739.01	N.A.	98.30
0-80	1764.22	N.A.	99.70
0-90	1766.36	N.A.	99.80
10-90	1247.52	N.A.	70.50
20-40	416.46	N.A.	23.50
20-50	467.19	N.A.	26.40
40-70	99.74	N.A.	5.60
60-80	25.21	N.A.	1.40
70-80	7.59	N.A.	0.40
80-90	2.13	N.A.	0.10
90-110	0.13	N.A.	0.00
90-120	0.23	N.A.	0.00
90-130	0.31	N.A.	0.00
90-150	1.08	N.A.	0.10
90-180	2.83	N.A.	0.20
110-180	2.71	N.A.	0.20
0-180	1769.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	518.83
10-20	721.61
20-30	312.37
30-40	104.09
40-50	50.74
50-60	31.38
60-70	17.62
70-80	7.59
80-90	2.13
90-100	0.05
100-110	0.07
110-120	0.10
120-130	0.09
130-140	0.21
140-150	0.55
150-160	0.84
160-170	0.68
170-180	0.23

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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	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	100	108	104	101	98	101	98	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83
5	98	92	87	84	97	91	86	83	89	85	82	87	84	82	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77
7	92	85	80	76	91	84	79	76	83	79	76	82	78	76	81	78	75	74
8	89	81	77	74	88	81	77	73	80	76	73	79	75	73	78	75	73	71
9	86	79	74	71	85	78	74	71	77	73	71	77	73	70	76	73	70	69
10	84	76	72	69	83	76	71	69	75	71	68	74	71	68	74	70	68	67

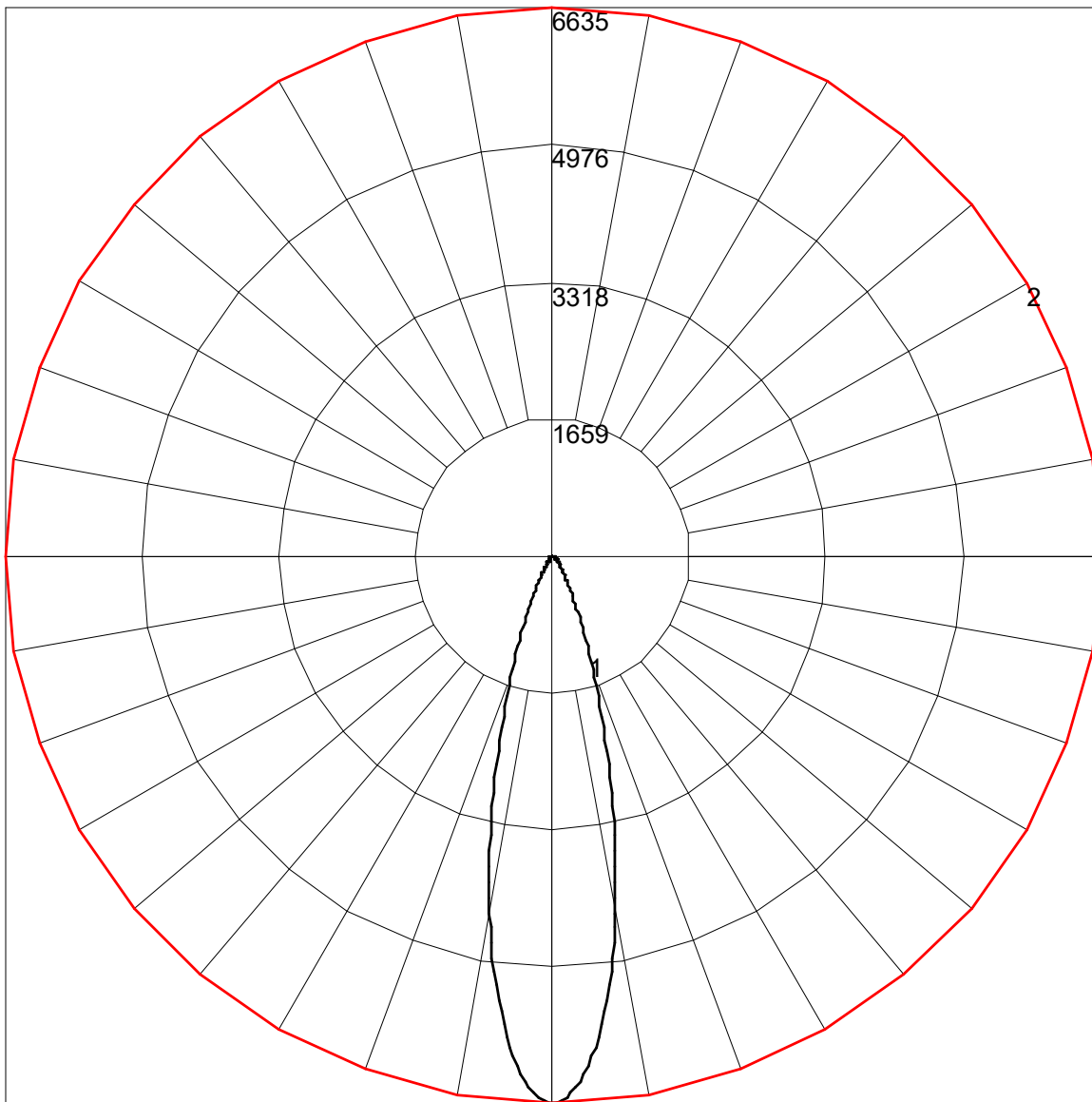
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	10.1	11.1	10.5	11.4	11.7	10.1	11.1	10.5	11.4	11.7
	3H	11.0	11.9	11.4	12.2	12.6	11.0	11.9	11.4	12.2	12.6
	4H	11.2	12.0	11.7	12.4	12.8	11.2	12.0	11.7	12.4	12.8
	6H	11.4	12.1	11.8	12.5	12.9	11.4	12.1	11.8	12.5	12.9
	8H	11.5	12.1	11.9	12.5	12.9	11.5	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
4H	2H	10.4	11.2	10.8	11.5	11.9	10.4	11.2	10.8	11.5	11.9
	3H	11.4	12.0	11.8	12.4	12.8	11.4	12.0	11.8	12.4	12.8
	4H	11.7	12.3	12.2	12.7	13.2	11.7	12.3	12.2	12.7	13.2
	6H	12.0	12.5	12.5	12.9	13.4	12.0	12.5	12.5	12.9	13.4
	8H	12.1	12.5	12.5	13.0	13.5	12.1	12.5	12.5	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	12.1	12.5	12.6	13.0	13.5	12.1	12.5	12.6	13.0	13.5
	8H	12.3	12.6	12.8	13.1	13.6	12.3	12.6	12.8	13.1	13.6
	12H	12.4	12.7	12.9	13.2	13.7	12.4	12.7	12.9	13.2	13.7
12H	4H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1
	6H	12.1	12.4	12.7	12.9	13.5	12.1	12.4	12.7	12.9	13.5
	8H	12.3	12.6	12.8	13.1	13.7	12.3	12.6	12.8	13.1	13.7

Maximum UGR = 13.7

POLAR GRAPH



Maximum Candela = 6635 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.)