



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-OM-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.04

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 26-JAN-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 6CR-TL-L20-835-xxx-DIM-UNV-OM-CS-xx

[LUMINAIRE] 6" DIA SURFACE CYLINDER

[LAMP] One white LED

[_SEARCH_SOURCE TYPE] 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	2002
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	101
Total Luminaire Watts	19.8249
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.76
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	4971	4971	4971
55	1443	1443	1443
65	507	507	507
75	226	226	226
85	112	112	112

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CANDELA TABULATION

	<u>0</u>
0.0	4051.0
0.5	4054.0
1.0	4066.0
1.5	4077.0
2.0	4102.0
2.5	4118.0
3.0	4121.0
3.5	4122.0
4.0	4099.0
4.5	4068.0
5.0	4009.0
5.5	3934.0
6.0	3850.0
6.5	3756.0
7.0	3654.0
7.5	3548.0
8.0	3439.0
8.5	3331.0
9.0	3225.0
9.5	3122.0
10.0	3024.0
10.5	2932.0
11.0	2846.0
11.5	2765.0
12.0	2688.0
12.5	2616.0
13.0	2548.0
13.5	2483.0
14.0	2421.0
14.5	2364.0
15.0	2312.0
15.5	2266.0
16.0	2228.0
16.5	2194.0
17.0	2162.0
17.5	2134.0
18.0	2109.0
18.5	2088.0
19.0	2073.0
19.5	2060.0
20.0	2049.0
20.5	2036.0
21.0	2023.0
21.5	2009.0
22.0	1994.0
22.5	1975.0
23.0	1952.0
23.5	1924.0
24.0	1889.0
24.5	1843.0
25.0	1790.0
25.5	1734.0
26.0	1679.0
26.5	1618.0

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CANDELA TABULATION - (Cont.)

27.0	1554.0
27.5	1481.0
28.0	1398.0
28.5	1307.0
29.0	1212.0
29.5	1115.0
30.0	1012.0
30.5	905.3
31.0	793.6
31.5	682.3
32.0	575.3
32.5	475.2
33.0	388.1
33.5	313.8
34.0	251.2
34.5	199.2
35.0	157.0
35.5	125.2
36.0	104.8
36.5	94.1
37.0	87.7
37.5	82.1
38.0	77.2
38.5	72.7
39.0	68.6
39.5	64.9
40.0	61.4
40.5	58.1
41.0	55.0
41.5	52.2
42.0	49.5
42.5	47.0
43.0	44.5
43.5	42.3
44.0	40.1
44.5	38.0
45.0	36.1
45.5	34.2
46.0	32.3
46.5	30.5
47.0	28.6
47.5	26.8
48.0	25.1
48.5	23.5
49.0	21.9
49.5	20.3
50.0	18.7
50.5	17.2
51.0	15.9
51.5	14.7
52.0	13.5
52.5	12.5
53.0	11.5
53.5	10.7
54.0	9.9
54.5	9.1

CANDELA TABULATION - (Cont.)

55.0	8.5
55.5	7.9
56.0	7.3
56.5	6.8
57.0	6.3
57.5	5.9
58.0	5.5
58.5	5.1
59.0	4.8
59.5	4.5
60.0	4.2
60.5	3.9
61.0	3.7
61.5	3.4
62.0	3.2
62.5	3.0
63.0	2.8
63.5	2.7
64.0	2.5
64.5	2.3
65.0	2.2
65.5	2.1
66.0	1.9
66.5	1.8
67.0	1.7
67.5	1.6
68.0	1.5
68.5	1.4
69.0	1.3
69.5	1.2
70.0	1.1
70.5	1.1
71.0	1.0
71.5	0.9
72.0	0.8
72.5	0.8
73.0	0.7
73.5	0.7
74.0	0.6
74.5	0.6
75.0	0.6
75.5	0.5
76.0	0.5
76.5	0.4
77.0	0.4
77.5	0.4
78.0	0.3
78.5	0.3
79.0	0.3
79.5	0.3
80.0	0.2
80.5	0.2
81.0	0.2
81.5	0.2
82.0	0.2
82.5	0.2

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CANDELA TABULATION - (Cont.)

83.0	0.2
83.5	0.1
84.0	0.1
84.5	0.1
85.0	0.1
85.5	0.1
86.0	0.1
86.5	0.1
87.0	0.1
87.5	0.1
88.0	0.0
88.5	0.0
89.0	0.0
89.5	0.0
90.0	0.0
90.5	0.0
91.0	0.0
91.5	0.0
92.0	0.0
92.5	0.0
93.0	0.0
93.5	0.0
94.0	0.0
94.5	0.0
95.0	0.0
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	0.0
103.0	0.0
103.5	0.0
104.0	0.0
104.5	0.0
105.0	0.0
105.5	0.0
106.0	0.0
106.5	0.0
107.0	0.0
107.5	0.0
108.0	0.0
108.5	0.0
109.0	0.0
109.5	0.0
110.0	0.0
110.5	0.0

CANDELA TABULATION - (Cont.)

111.0	0.0
111.5	0.0
112.0	0.0
112.5	0.0
113.0	0.0
113.5	0.0
114.0	0.0
114.5	0.0
115.0	0.0
115.5	0.0
116.0	0.0
116.5	0.0
117.0	0.0
117.5	0.0
118.0	0.0
118.5	0.0
119.0	0.0
119.5	0.0
120.0	0.0
120.5	0.0
121.0	0.0
121.5	0.0
122.0	0.0
122.5	0.0
123.0	0.0
123.5	0.0
124.0	0.0
124.5	0.0
125.0	0.0
125.5	0.0
126.0	0.0
126.5	0.0
127.0	0.0
127.5	0.0
128.0	0.0
128.5	0.0
129.0	0.0
129.5	0.0
130.0	0.0
130.5	0.0
131.0	0.0
131.5	0.0
132.0	0.0
132.5	0.0
133.0	0.0
133.5	0.0
134.0	0.0
134.5	0.0
135.0	0.0
135.5	0.0
136.0	0.0
136.5	0.0
137.0	0.0
137.5	0.0
138.0	0.0
138.5	0.0

CANDELA TABULATION - (Cont.)

139.0	0.0
139.5	0.0
140.0	0.0
140.5	0.0
141.0	0.0
141.5	0.0
142.0	0.0
142.5	0.0
143.0	0.0
143.5	0.0
144.0	0.0
144.5	0.0
145.0	0.0
145.5	0.0
146.0	0.0
146.5	0.0
147.0	0.0
147.5	0.0
148.0	0.0
148.5	0.0
149.0	0.0
149.5	0.0
150.0	0.0
150.5	0.0
151.0	0.0
151.5	0.0
152.0	0.0
152.5	0.0
153.0	0.0
153.5	0.0
154.0	0.0
154.5	0.0
155.0	0.0
155.5	0.0
156.0	0.0
156.5	0.0
157.0	0.0
157.5	0.0
158.0	0.0
158.5	0.0
159.0	0.0
159.5	0.0
160.0	0.0
160.5	0.0
161.0	0.0
161.5	0.0
162.0	0.0
162.5	0.0
163.0	0.0
163.5	0.0
164.0	0.0
164.5	0.0
165.0	0.0
165.5	0.0
166.0	0.0
166.5	0.0

CANDELA TABULATION - (Cont.)

167.0	0.0
167.5	0.0
168.0	0.0
168.5	0.0
169.0	0.0
169.5	0.0
170.0	0.0
170.5	0.0
171.0	0.0
171.5	0.0
172.0	0.0
172.5	0.0
173.0	0.0
173.5	0.0
174.0	0.0
174.5	0.0
175.0	0.0
175.5	0.0
176.0	0.0
176.5	0.0
177.0	0.0
177.5	0.0
178.0	0.0
178.5	0.0
179.0	0.0
179.5	0.0
180.0	0.0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1009.84	N.A.	50.40
0-30	1783.62	N.A.	89.10
0-40	1962.24	N.A.	98.00
0-60	1999.02	N.A.	99.80
0-80	2001.94	N.A.	100.00
0-90	2002.06	N.A.	100.00
10-90	1655.18	N.A.	82.70
20-40	952.39	N.A.	47.60
20-50	980.82	N.A.	49.00
40-70	39.08	N.A.	2.00
60-80	2.93	N.A.	0.10
70-80	0.62	N.A.	0.00
80-90	0.12	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	2002.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	346.88
10-20	662.96
20-30	773.78
30-40	178.62
40-50	28.42
50-60	8.35
60-70	2.31
70-80	0.62
80-90	0.12
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

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	98	98	97	95
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	87	85
4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
6	92	85	79	76	91	84	79	75	82	78	75	81	77	74	80	77	74	73
7	89	80	75	72	87	80	75	71	79	74	71	78	74	71	76	73	70	69
8	85	77	72	68	84	76	71	68	75	71	68	74	70	67	73	70	67	66
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63
10	79	70	65	62	78	70	65	62	69	64	61	68	64	61	67	64	61	60

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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

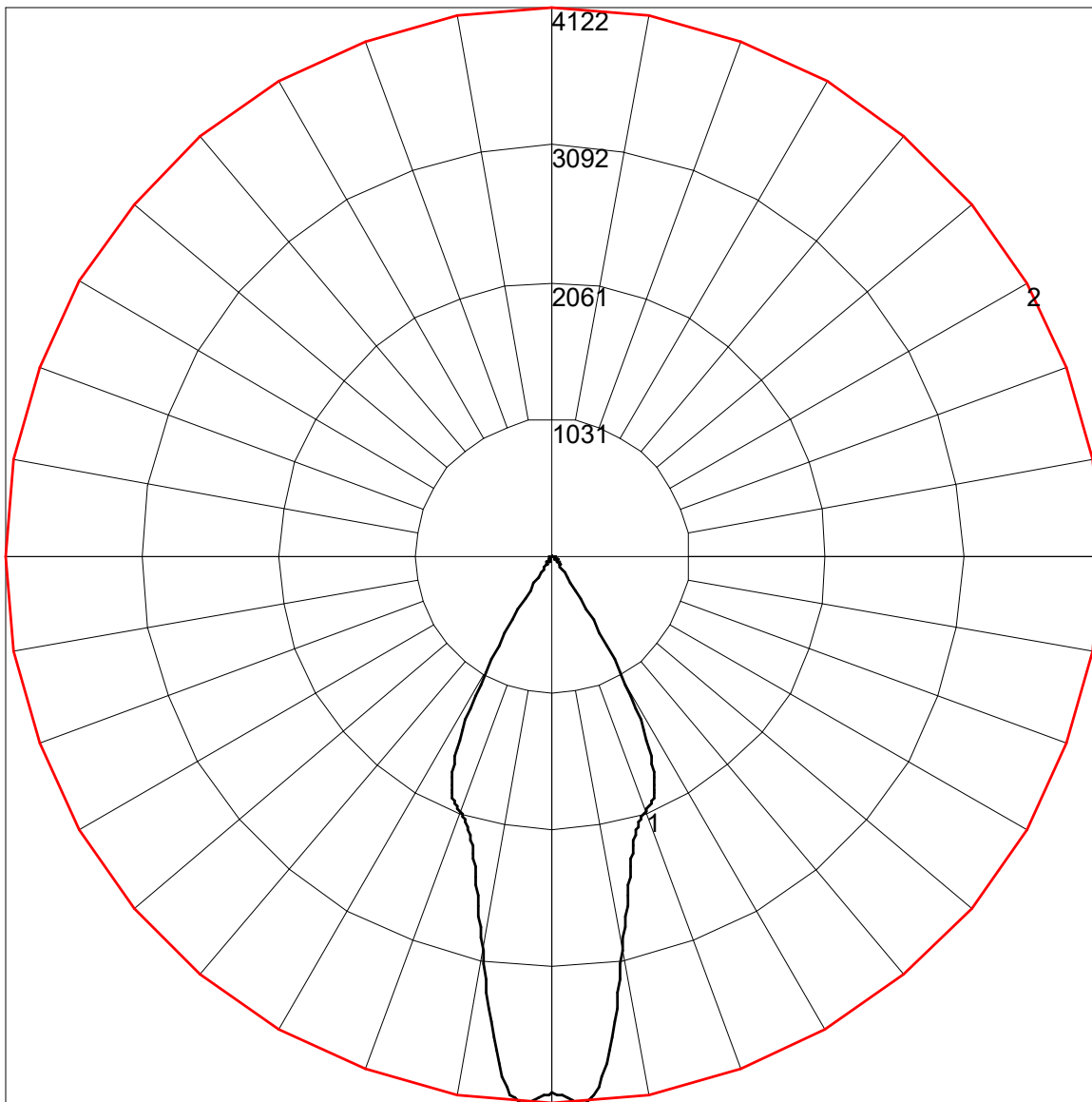
X=2H	Y=2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

UGR Viewed Endwise

4H	2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
12H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Maximum UGR = 2.5

POLAR GRAPH



Maximum Candela = 4122 Located At Horizontal Angle = 0, Vertical Angle = 3.5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (3.5) (Through Max. Cd.)