



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-LN-WH-XX.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.10

[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-LN-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	1833
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	19.7854
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.44
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	12037	12037	12037
55	9029	9029	9029
65	7472	7472	7472
75	6079	6079	6079
85	3385	3385	3385

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CANDELA TABULATION

	<u>0</u>
0.0	6885.0
0.5	6877.0
1.0	6854.0
1.5	6818.0
2.0	6767.0
2.5	6704.0
3.0	6628.0
3.5	6540.0
4.0	6440.0
4.5	6330.0
5.0	6211.0
5.5	6082.0
6.0	5944.0
6.5	5795.0
7.0	5638.0
7.5	5474.0
8.0	5300.0
8.5	5121.0
9.0	4936.0
9.5	4747.0
10.0	4555.0
10.5	4360.0
11.0	4161.0
11.5	3962.0
12.0	3765.0
12.5	3569.0
13.0	3376.0
13.5	3186.0
14.0	3001.0
14.5	2822.0
15.0	2650.0
15.5	2484.0
16.0	2325.0
16.5	2173.0
17.0	2030.0
17.5	1893.0
18.0	1764.0
18.5	1643.0
19.0	1530.0
19.5	1425.0
20.0	1326.0
20.5	1232.0
21.0	1144.0
21.5	1064.0
22.0	986.9
22.5	915.2
23.0	848.2
23.5	786.2
24.0	728.5
24.5	674.5
25.0	624.8
25.5	579.0
26.0	536.5
26.5	497.5

CANDELA TABULATION - (Cont.)

27.0	461.5
27.5	428.5
28.0	398.3
28.5	370.6
29.0	345.2
29.5	321.8
30.0	300.5
30.5	280.9
31.0	262.9
31.5	246.5
32.0	231.6
32.5	217.7
33.0	205.0
33.5	193.3
34.0	182.7
34.5	172.9
35.0	164.0
35.5	155.9
36.0	148.3
36.5	141.4
37.0	135.1
37.5	129.2
38.0	123.9
38.5	119.0
39.0	114.4
39.5	110.1
40.0	106.1
40.5	102.4
41.0	99.0
41.5	95.8
42.0	92.8
42.5	90.0
43.0	87.3
43.5	84.8
44.0	82.4
44.5	80.1
45.0	77.9
45.5	75.9
46.0	73.9
46.5	72.0
47.0	70.2
47.5	68.4
48.0	66.7
48.5	65.0
49.0	63.4
49.5	61.8
50.0	60.3
50.5	58.9
51.0	57.4
51.5	56.1
52.0	54.7
52.5	53.4
53.0	52.2
53.5	50.9
54.0	49.7
54.5	48.6

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CANDELA TABULATION - (Cont.)

55.0	47.4
55.5	46.3
56.0	45.2
56.5	44.1
57.0	43.1
57.5	42.1
58.0	41.1
58.5	40.1
59.0	39.2
59.5	38.3
60.0	37.4
60.5	36.5
61.0	35.6
61.5	34.7
62.0	33.8
62.5	33.0
63.0	32.1
63.5	31.3
64.0	30.5
64.5	29.7
65.0	28.9
65.5	28.1
66.0	27.3
66.5	26.5
67.0	25.8
67.5	25.0
68.0	24.3
68.5	23.5
69.0	22.8
69.5	22.0
70.0	21.3
70.5	20.6
71.0	19.9
71.5	19.2
72.0	18.5
72.5	17.8
73.0	17.1
73.5	16.4
74.0	15.7
74.5	15.1
75.0	14.4
75.5	13.7
76.0	13.1
76.5	12.4
77.0	11.8
77.5	11.1
78.0	10.5
78.5	9.9
79.0	9.3
79.5	8.7
80.0	8.1
80.5	7.5
81.0	6.9
81.5	6.4
82.0	5.8
82.5	5.3

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CANDELA TABULATION - (Cont.)

83.0	4.7
83.5	4.2
84.0	3.7
84.5	3.2
85.0	2.7
85.5	2.3
86.0	2.0
86.5	1.6
87.0	1.3
87.5	1.1
88.0	0.8
88.5	0.6
89.0	0.4
89.5	0.3
90.0	0.2
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

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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	1268.9	N.A.	69.20
0-30	1572.87	N.A.	85.80
0-40	1681.58	N.A.	91.70
0-60	1785.52	N.A.	97.40
0-80	1829.51	N.A.	99.80
0-90	1833.04	N.A.	100.00
10-90	1293.91	N.A.	70.60
20-40	412.68	N.A.	22.50
20-50	473.87	N.A.	25.90
40-70	132.65	N.A.	7.20
60-80	44.00	N.A.	2.40
70-80	15.28	N.A.	0.80
80-90	3.53	N.A.	0.20
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	1833.05	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	539.14
10-20	729.76
20-30	303.97
30-40	108.71
40-50	61.18
50-60	42.75
60-70	28.72
70-80	15.28
80-90	3.53
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	114	112	109	107	112	110	108	106	106	104	103	102	101	100	98	98	97	95
2	110	105	102	99	107	104	100	98	100	98	96	98	95	94	95	93	92	90
3	105	100	96	92	103	98	95	91	96	93	90	94	91	89	91	89	87	86
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	86	83	82
5	98	91	86	82	96	90	85	82	88	84	81	87	83	81	85	82	80	79
6	94	87	82	79	93	86	82	78	85	81	78	84	80	77	82	79	77	76
7	91	84	79	75	90	83	78	75	82	78	75	81	77	74	80	77	74	73
8	88	81	76	73	87	80	76	72	79	75	72	78	75	72	77	74	72	70
9	85	78	73	70	85	77	73	70	77	72	70	76	72	69	75	72	69	68
10	83	75	71	68	82	75	70	68	74	70	67	73	70	67	73	69	67	66

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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	12.7	13.7	13.1	14.0	14.4	12.7	13.7	13.1	14.0	14.4
	3H	14.2	15.1	14.6	15.4	15.8	14.2	15.1	14.6	15.4	15.8
	4H	14.7	15.5	15.1	15.9	16.3	14.7	15.5	15.1	15.9	16.3
	6H	15.0	15.8	15.4	16.1	16.5	15.0	15.8	15.4	16.1	16.5
	8H	15.1	15.8	15.5	16.2	16.6	15.1	15.8	15.5	16.2	16.6
	12H	15.1	15.8	15.6	16.2	16.6	15.1	15.8	15.6	16.2	16.6

UGR Viewed Endwise

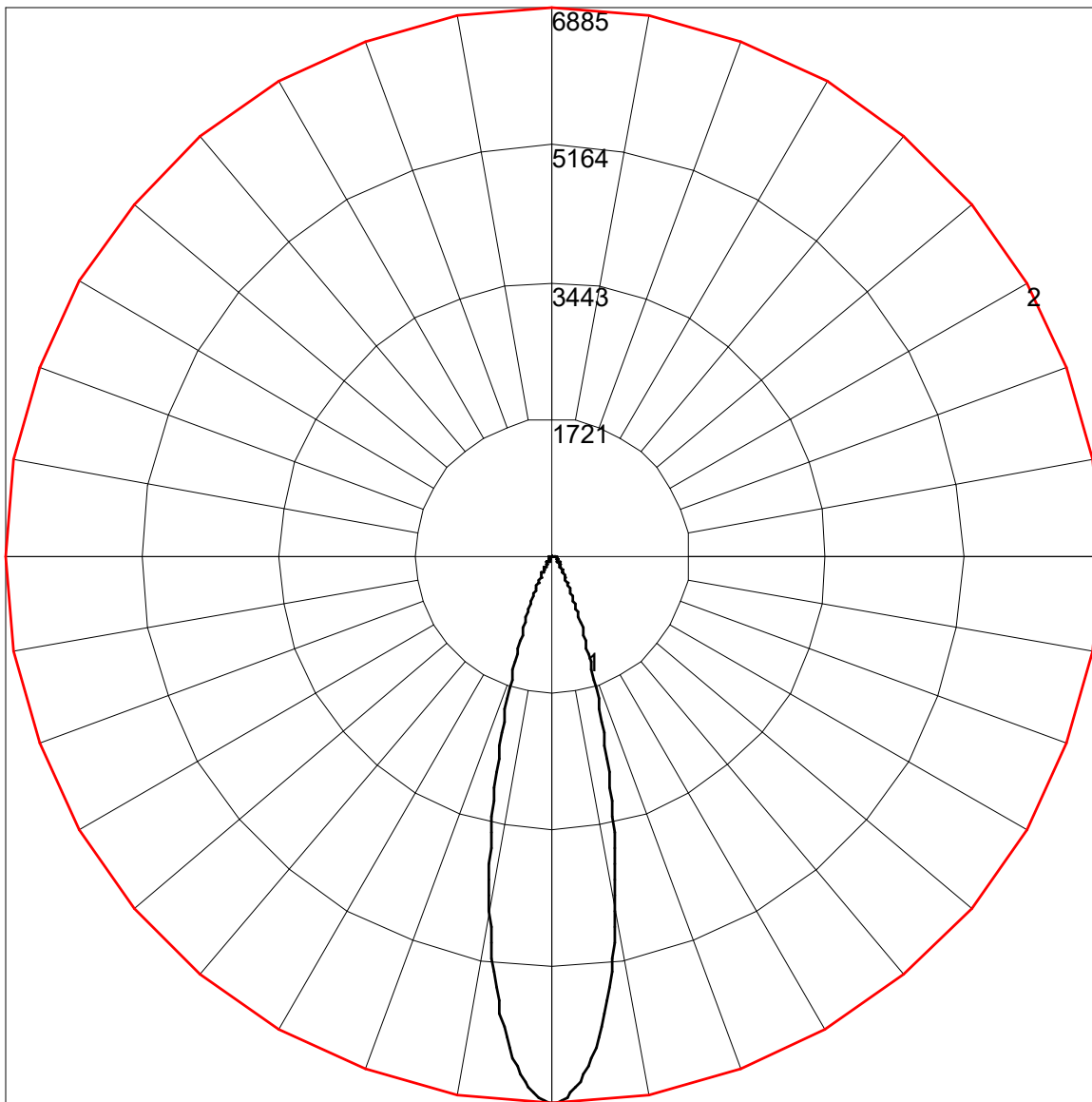
4H	2H	13.2	14.0	13.6	14.3	14.7	13.2	14.0	13.6	14.3	14.7
	3H	14.8	15.5	15.2	15.9	16.3	14.8	15.5	15.2	15.9	16.3
	4H	15.4	16.0	15.9	16.4	16.9	15.4	16.0	15.9	16.4	16.9
	6H	15.9	16.4	16.3	16.8	17.3	15.9	16.4	16.3	16.8	17.3
	8H	16.0	16.4	16.5	16.9	17.4	16.0	16.4	16.5	16.9	17.4
	12H	16.0	16.4	16.5	16.9	17.4	16.0	16.4	16.5	16.9	17.4

8H	4H	15.6	16.1	16.1	16.5	17.0	15.6	16.1	16.1	16.5	17.0
	6H	16.1	16.5	16.7	17.0	17.5	16.1	16.5	16.7	17.0	17.5
	8H	16.3	16.6	16.8	17.1	17.6	16.3	16.6	16.8	17.1	17.6
	12H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7

12H	4H	15.6	16.0	16.1	16.5	16.9	15.6	16.0	16.1	16.5	16.9
	6H	16.2	16.5	16.7	16.9	17.5	16.2	16.5	16.7	16.9	17.5
	8H	16.3	16.6	16.9	17.1	17.7	16.3	16.6	16.9	17.1	17.7

Maximum UGR = 17.7

POLAR GRAPH



Maximum Candela = 6885 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.)