



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.14

[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-RM-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	1795
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	91
Total Luminaire Watts	19.7717
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.52
Spacing Criterion (90-270)	0.52
Spacing Criterion (Diagonal)	0.52
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	10300	10300	10300
55	7164	7164	7164
65	5115	5115	5115
75	3423	3423	3423
85	2793	2793	2793

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CANDELA TABULATION

	<u>0</u>
0.0	5176.0
0.5	5172.0
1.0	5160.0
1.5	5141.0
2.0	5115.0
2.5	5082.0
3.0	5043.0
3.5	4997.0
4.0	4944.0
4.5	4887.0
5.0	4824.0
5.5	4754.0
6.0	4679.0
6.5	4599.0
7.0	4513.0
7.5	4421.0
8.0	4325.0
8.5	4223.0
9.0	4118.0
9.5	4009.0
10.0	3896.0
10.5	3780.0
11.0	3661.0
11.5	3540.0
12.0	3417.0
12.5	3295.0
13.0	3173.0
13.5	3050.0
14.0	2926.0
14.5	2802.0
15.0	2680.0
15.5	2559.0
16.0	2438.0
16.5	2320.0
17.0	2203.0
17.5	2088.0
18.0	1975.0
18.5	1865.0
19.0	1760.0
19.5	1657.0
20.0	1557.0
20.5	1462.0
21.0	1370.0
21.5	1282.0
22.0	1199.0
22.5	1120.0
23.0	1046.0
23.5	975.2
24.0	908.2
24.5	845.1
25.0	786.1
25.5	731.2
26.0	680.0
26.5	632.0

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	587.4
<b>27.5</b>	546.1
<b>28.0</b>	507.7
<b>28.5</b>	471.9
<b>29.0</b>	439.1
<b>29.5</b>	408.5
<b>30.0</b>	380.2
<b>30.5</b>	354.2
<b>31.0</b>	330.2
<b>31.5</b>	308.0
<b>32.0</b>	287.5
<b>32.5</b>	268.7
<b>33.0</b>	251.3
<b>33.5</b>	235.1
<b>34.0</b>	220.3
<b>34.5</b>	206.5
<b>35.0</b>	193.8
<b>35.5</b>	182.1
<b>36.0</b>	171.2
<b>36.5</b>	161.2
<b>37.0</b>	151.9
<b>37.5</b>	143.5
<b>38.0</b>	135.7
<b>38.5</b>	128.7
<b>39.0</b>	122.2
<b>39.5</b>	116.3
<b>40.0</b>	111.0
<b>40.5</b>	106.0
<b>41.0</b>	101.5
<b>41.5</b>	97.3
<b>42.0</b>	93.4
<b>42.5</b>	89.8
<b>43.0</b>	86.4
<b>43.5</b>	83.2
<b>44.0</b>	80.2
<b>44.5</b>	77.4
<b>45.0</b>	74.8
<b>45.5</b>	72.4
<b>46.0</b>	70.1
<b>46.5</b>	67.9
<b>47.0</b>	65.8
<b>47.5</b>	63.9
<b>48.0</b>	62.1
<b>48.5</b>	60.3
<b>49.0</b>	58.6
<b>49.5</b>	57.0
<b>50.0</b>	55.5
<b>50.5</b>	54.0
<b>51.0</b>	52.6
<b>51.5</b>	51.1
<b>52.0</b>	49.8
<b>52.5</b>	48.4
<b>53.0</b>	47.2
<b>53.5</b>	45.9
<b>54.0</b>	44.6
<b>54.5</b>	43.4

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CANDELA TABULATION - (Cont.)

55.0	42.2
55.5	41.0
56.0	39.9
56.5	38.8
57.0	37.7
57.5	36.6
58.0	35.5
58.5	34.5
59.0	33.5
59.5	32.5
60.0	31.5
60.5	30.5
61.0	29.5
61.5	28.6
62.0	27.6
62.5	26.7
63.0	25.7
63.5	24.8
64.0	23.9
64.5	23.0
65.0	22.2
65.5	21.3
66.0	20.5
66.5	19.6
67.0	18.8
67.5	18.0
68.0	17.2
68.5	16.5
69.0	15.7
69.5	15.0
70.0	14.3
70.5	13.7
71.0	13.1
71.5	12.5
72.0	11.9
72.5	11.4
73.0	10.9
73.5	10.4
74.0	10.0
74.5	9.5
75.0	9.1
75.5	8.7
76.0	8.3
76.5	8.0
77.0	7.6
77.5	7.2
78.0	6.9
78.5	6.5
79.0	6.2
79.5	5.9
80.0	5.5
80.5	5.2
81.0	4.9
81.5	4.6
82.0	4.2
82.5	3.9

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CANDELA TABULATION - (Cont.)

83.0	3.6
83.5	3.3
84.0	3.0
84.5	2.7
85.0	2.5
85.5	2.2
86.0	1.9
86.5	1.6
87.0	1.4
87.5	1.2
88.0	1.0
88.5	0.8
89.0	0.7
89.5	0.5
90.0	0.4
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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-RM-WH-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1158.21	N.A.	64.50
0-30	1534.09	N.A.	85.40
0-40	1663.07	N.A.	92.60
0-60	1760.57	N.A.	98.10
0-80	1792.58	N.A.	99.80
0-90	1795.42	N.A.	100.00
10-90	1364.82	N.A.	76.00
20-40	504.85	N.A.	28.10
20-50	564.32	N.A.	31.40
40-70	119.62	N.A.	6.70
60-80	32.01	N.A.	1.80
70-80	9.89	N.A.	0.60
80-90	2.84	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	1795.43	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	430.60
10-20	727.61
20-30	375.88
30-40	128.98
40-50	59.47
50-60	38.03
60-70	22.12
70-80	9.89
80-90	2.84
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	109	107	106	105	104	102	102	101	99	98	97	97	95
2	109	105	101	98	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	92	103	98	94	91	95	92	89	93	90	88	91	89	87	85
4	101	94	90	86	99	93	89	85	91	87	84	89	86	83	87	85	83	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74
7	90	82	77	74	89	82	77	73	80	76	73	79	75	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	73	70	75	72	69	68
9	84	76	71	68	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	64	63

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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

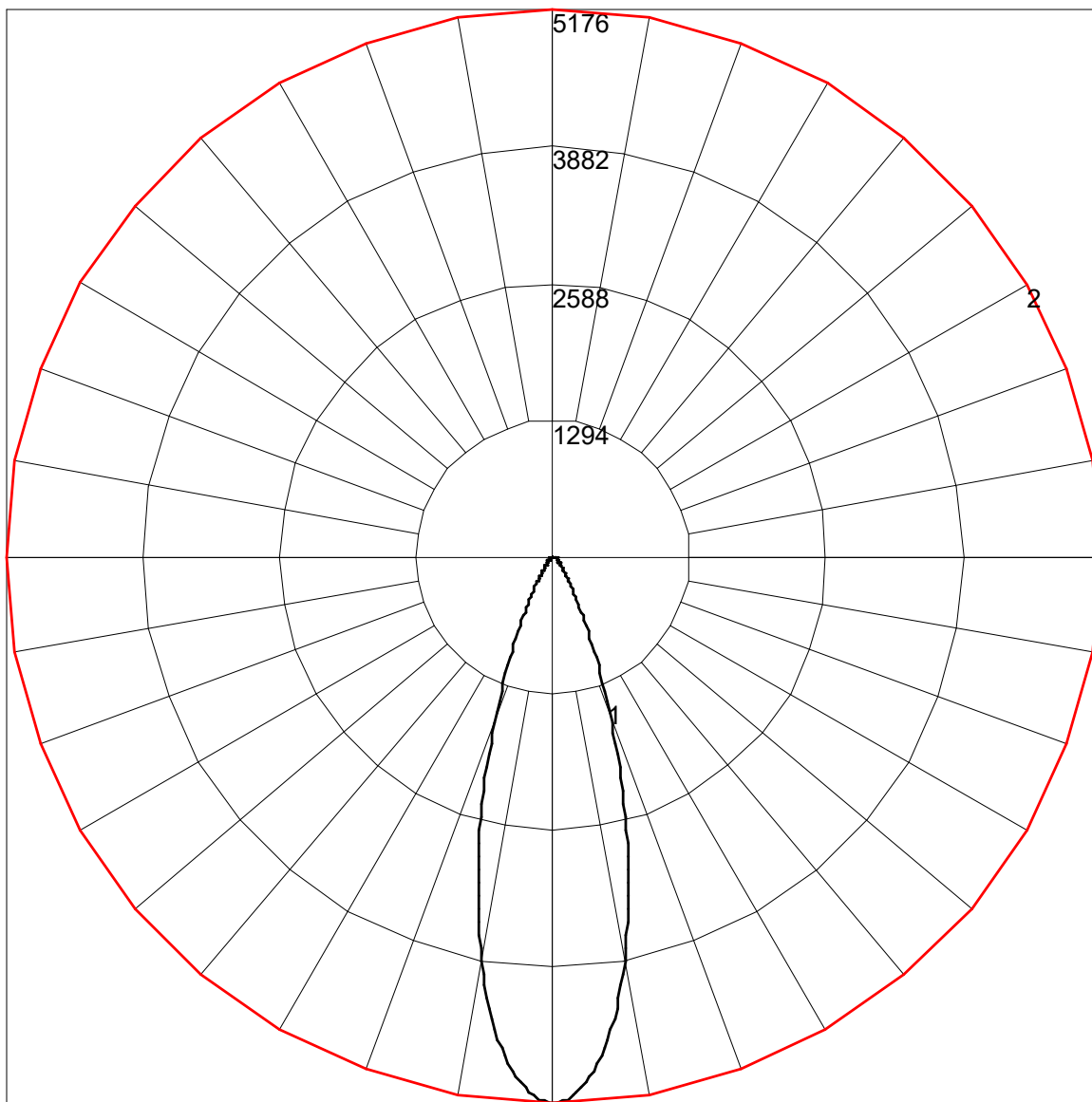
X=2H	Y=2H	11.4	12.4	11.8	12.7	13.0	11.4	12.4	11.8	12.7	13.0
	3H	12.4	13.2	12.7	13.6	13.9	12.4	13.2	12.7	13.6	13.9
	4H	12.7	13.5	13.1	13.8	14.2	12.7	13.5	13.1	13.8	14.2
	6H	12.9	13.6	13.3	14.0	14.4	12.9	13.6	13.3	14.0	14.4
	8H	12.9	13.6	13.4	14.0	14.4	12.9	13.6	13.4	14.0	14.4
	12H	13.0	13.6	13.4	14.0	14.4	13.0	13.6	13.4	14.0	14.4

### UGR Viewed Endwise

4H	2H	11.7	12.5	12.1	12.9	13.2	11.7	12.5	12.1	12.9	13.2
	3H	12.8	13.5	13.2	13.9	14.3	12.8	13.5	13.2	13.9	14.3
	4H	13.2	13.8	13.6	14.2	14.6	13.2	13.8	13.6	14.2	14.6
	6H	13.5	14.0	14.0	14.4	14.9	13.5	14.0	14.0	14.4	14.9
	8H	13.6	14.1	14.1	14.5	15.0	13.6	14.1	14.1	14.5	15.0
	12H	13.6	14.0	14.1	14.5	15.0	13.6	14.0	14.1	14.5	15.0
8H	4H	13.3	13.7	13.7	14.2	14.6	13.3	13.7	13.7	14.2	14.6
	6H	13.7	14.0	14.2	14.5	15.0	13.7	14.0	14.2	14.5	15.0
	8H	13.8	14.1	14.4	14.7	15.2	13.8	14.1	14.4	14.7	15.2
	12H	14.0	14.2	14.5	14.7	15.3	14.0	14.2	14.5	14.7	15.3
12H	4H	13.2	13.6	13.7	14.1	14.6	13.2	13.6	13.7	14.1	14.6
	6H	13.7	14.0	14.2	14.5	15.0	13.7	14.0	14.2	14.5	15.0
	8H	13.9	14.1	14.4	14.6	15.2	13.9	14.1	14.4	14.6	15.2

Maximum UGR = 15.3

POLAR GRAPH



Maximum Candela = 5176 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.)