



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.12

[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-RW-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	1323
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	19.772
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
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	30610	30610	30610
55	24716	24716	24716
65	15989	15989	15989
75	8916	8916	8916
85	4580	4580	4580

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CANDELA TABULATION

	<u>0</u>
0.0	1063.0
0.5	1063.0
1.0	1062.0
1.5	1060.0
2.0	1058.0
2.5	1056.0
3.0	1053.0
3.5	1050.0
4.0	1047.0
4.5	1043.0
5.0	1040.0
5.5	1036.0
6.0	1032.0
6.5	1028.0
7.0	1024.0
7.5	1020.0
8.0	1016.0
8.5	1011.0
9.0	1007.0
9.5	1003.0
10.0	999.2
10.5	995.1
11.0	990.9
11.5	986.8
12.0	982.9
12.5	979.0
13.0	975.1
13.5	971.1
14.0	967.1
14.5	963.1
15.0	959.0
15.5	954.8
16.0	950.4
16.5	946.0
17.0	941.5
17.5	936.7
18.0	931.6
18.5	926.1
19.0	920.8
19.5	915.1
20.0	908.9
20.5	901.8
21.0	893.6
21.5	884.7
22.0	874.5
22.5	863.2
23.0	850.4
23.5	836.0
24.0	820.2
24.5	802.3
25.0	782.3
25.5	760.2
26.0	736.3
26.5	710.9

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CANDELA TABULATION - (Cont.)

27.0	684.2
27.5	657.1
28.0	628.7
28.5	600.6
29.0	572.6
29.5	544.6
30.0	517.1
30.5	490.1
31.0	464.6
31.5	439.9
32.0	416.6
32.5	394.9
33.0	374.8
33.5	356.7
34.0	340.4
34.5	326.2
35.0	313.7
35.5	303.1
36.0	293.8
36.5	286.0
37.0	279.1
37.5	273.2
38.0	267.8
38.5	263.0
39.0	258.7
39.5	254.8
40.0	251.3
40.5	248.0
41.0	244.8
41.5	241.9
42.0	239.0
42.5	236.3
43.0	233.6
43.5	230.8
44.0	228.0
44.5	225.2
45.0	222.3
45.5	219.3
46.0	216.2
46.5	213.0
47.0	209.7
47.5	206.3
48.0	202.9
48.5	199.3
49.0	195.6
49.5	191.7
50.0	187.8
50.5	183.8
51.0	179.6
51.5	175.5
52.0	171.3
52.5	167.1
53.0	163.1
53.5	158.7
54.0	154.3
54.5	149.9

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CANDELA TABULATION - (Cont.)

55.0	145.6
55.5	141.2
56.0	136.9
56.5	132.7
57.0	128.5
57.5	124.3
58.0	120.2
58.5	116.2
59.0	112.2
59.5	108.3
60.0	104.4
60.5	100.6
61.0	96.9
61.5	93.2
62.0	89.7
62.5	86.1
63.0	82.7
63.5	79.2
64.0	75.9
64.5	72.6
65.0	69.4
65.5	66.2
66.0	63.1
66.5	60.1
67.0	57.2
67.5	54.3
68.0	51.5
68.5	48.7
69.0	46.0
69.5	43.4
70.0	41.0
70.5	38.7
71.0	36.6
71.5	34.6
72.0	32.7
72.5	30.9
73.0	29.2
73.5	27.7
74.0	26.2
74.5	24.9
75.0	23.7
75.5	22.6
76.0	21.4
76.5	20.3
77.0	19.2
77.5	18.1
78.0	17.1
78.5	16.0
79.0	15.0
79.5	14.0
80.0	13.0
80.5	12.0
81.0	11.1
81.5	10.2
82.0	9.2
82.5	8.4

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CANDELA TABULATION - (Cont.)

83.0	7.5
83.5	6.6
84.0	5.8
84.5	4.9
85.0	4.1
85.5	3.4
86.0	2.7
86.5	2.2
87.0	1.7
87.5	1.3
88.0	0.9
88.5	0.6
89.0	0.3
89.5	0.1
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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Zone	Lumens	%Lamp	%Fixt
0-20	367.94	N.A.	27.80
0-30	712.01	N.A.	53.80
0-40	921.69	N.A.	69.60
0-60	1222.29	N.A.	92.40
0-80	1317.94	N.A.	99.60
0-90	1323.35	N.A.	100.00
10-90	1225.44	N.A.	92.60
20-40	553.74	N.A.	41.80
20-50	724.34	N.A.	54.70
40-70	370.13	N.A.	28.00
60-80	95.65	N.A.	7.20
70-80	26.12	N.A.	2.00
80-90	5.41	N.A.	0.40
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	1323.35	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	97.90
10-20	270.04
20-30	344.07
30-40	209.67
40-50	170.60
50-60	130.01
60-70	69.53
70-80	26.12
80-90	5.41
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

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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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	83	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	45	41	39

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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

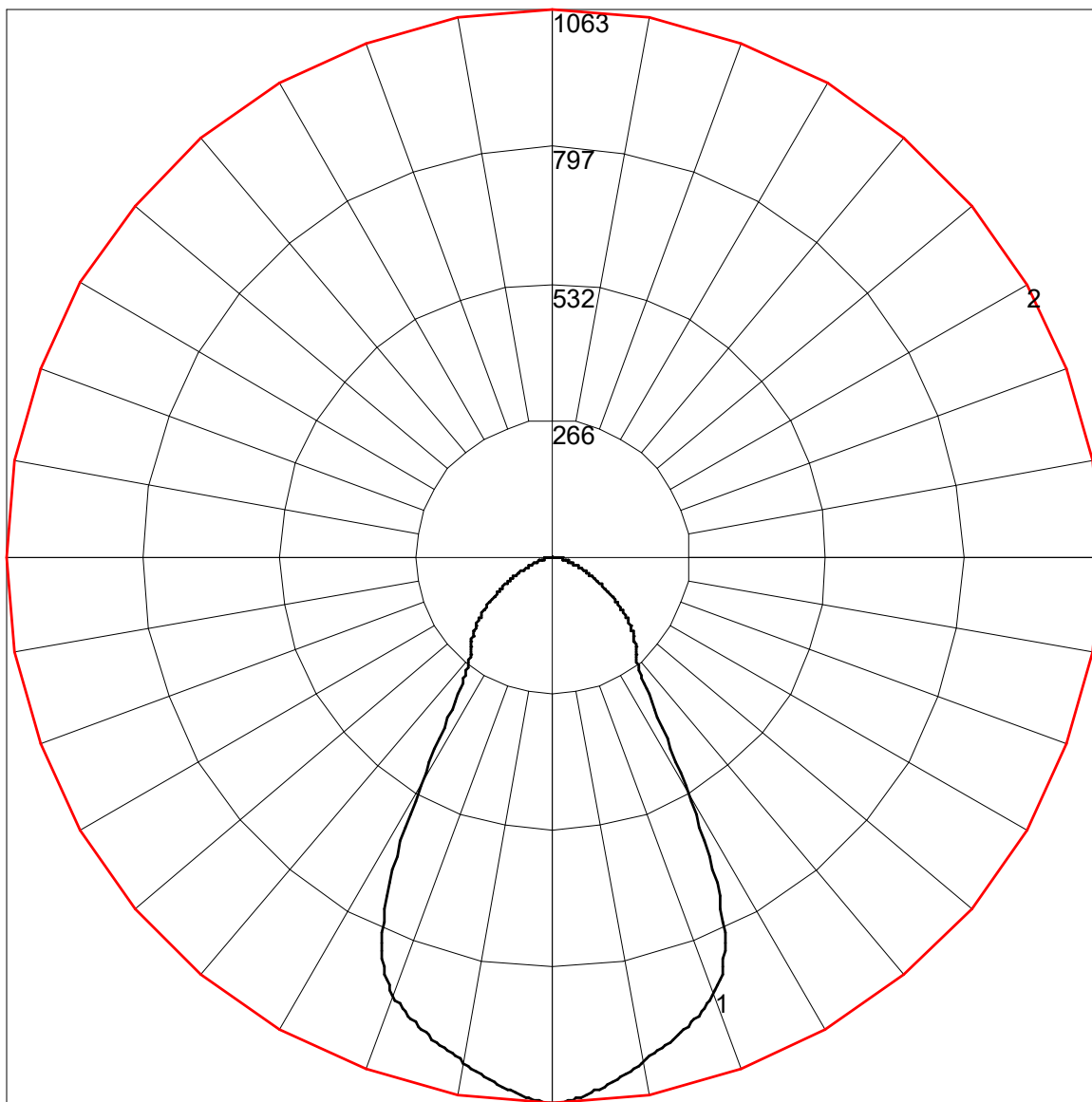
X=2H	Y=2H	20.6	22.0	21.0	22.3	22.5	20.6	22.0	21.0	22.3	22.5
	3H	21.4	22.6	21.8	22.9	23.2	21.4	22.6	21.8	22.9	23.2
	4H	21.6	22.7	22.0	23.0	23.4	21.6	22.7	22.0	23.0	23.4
	6H	21.7	22.7	22.1	23.0	23.4	21.7	22.7	22.1	23.0	23.4
	8H	21.7	22.7	22.1	23.0	23.4	21.7	22.7	22.1	23.0	23.4
	12H	21.7	22.6	22.1	23.0	23.4	21.7	22.6	22.1	23.0	23.4

UGR Viewed Endwise

4H	2H	20.9	22.0	21.3	22.3	22.7	20.9	22.0	21.3	22.3	22.7
	3H	21.8	22.7	22.2	23.1	23.5	21.8	22.7	22.2	23.1	23.5
	4H	22.0	22.9	22.4	23.3	23.7	22.0	22.9	22.4	23.3	23.7
	6H	22.2	22.9	22.7	23.3	23.8	22.2	22.9	22.7	23.3	23.8
	8H	22.3	22.9	22.7	23.3	23.8	22.3	22.9	22.7	23.3	23.8
	12H	22.2	22.8	22.7	23.3	23.7	22.2	22.8	22.7	23.3	23.7
8H	4H	22.1	22.7	22.5	23.2	23.6	22.1	22.7	22.5	23.2	23.6
	6H	22.3	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8
	8H	22.4	22.8	22.9	23.3	23.8	22.4	22.8	22.9	23.3	23.8
	12H	22.4	22.8	22.9	23.3	23.8	22.4	22.8	22.9	23.3	23.8
12H	4H	22.1	22.6	22.5	23.1	23.5	22.1	22.6	22.5	23.1	23.5
	6H	22.3	22.8	22.8	23.2	23.7	22.3	22.8	22.8	23.2	23.7
	8H	22.4	22.8	22.9	23.3	23.8	22.4	22.8	22.9	23.3	23.8

Maximum UGR = 23.8

POLAR GRAPH



Maximum Candela = 1063 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.)