



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.11

[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-LW-WH-AD-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	1333
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	19.7545
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
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	48117	48117	48117
55	41070	41070	41070
65	35031	35031	35031
75	28968	28968	28968
85	17927	17927	17927

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CANDELA TABULATION

	<u>0</u>
0.0	561.00
0.5	560.90
1.0	560.60
1.5	560.30
2.0	559.70
2.5	559.10
3.0	558.30
3.5	557.50
4.0	556.70
4.5	555.90
5.0	555.20
5.5	554.40
6.0	553.60
6.5	552.80
7.0	551.90
7.5	550.90
8.0	549.90
8.5	548.90
9.0	547.80
9.5	546.70
10.0	545.50
10.5	544.30
11.0	543.00
11.5	541.60
12.0	540.20
12.5	538.70
13.0	537.10
13.5	535.40
14.0	533.60
14.5	531.70
15.0	529.70
15.5	527.70
16.0	525.60
16.5	523.60
17.0	521.40
17.5	519.20
18.0	517.00
18.5	514.80
19.0	512.60
19.5	510.40
20.0	508.20
20.5	506.00
21.0	503.70
21.5	501.30
22.0	498.80
22.5	496.00
23.0	493.20
23.5	490.10
24.0	487.00
24.5	483.70
25.0	480.30
25.5	476.90
26.0	473.30
26.5	469.70

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CANDELA TABULATION - (Cont.)

27.0	466.00
27.5	462.20
28.0	458.40
28.5	454.70
29.0	451.00
29.5	447.20
30.0	443.50
30.5	439.60
31.0	435.60
31.5	431.70
32.0	427.70
32.5	423.70
33.0	419.60
33.5	415.40
34.0	411.30
34.5	407.10
35.0	402.90
35.5	398.60
36.0	394.30
36.5	389.90
37.0	385.50
37.5	381.10
38.0	376.60
38.5	372.00
39.0	367.60
39.5	363.00
40.0	358.40
40.5	353.90
41.0	349.20
41.5	344.70
42.0	340.00
42.5	335.40
43.0	330.70
43.5	325.90
44.0	321.10
44.5	316.30
45.0	311.40
45.5	306.60
46.0	301.70
46.5	296.80
47.0	291.90
47.5	286.90
48.0	282.00
48.5	277.00
49.0	272.10
49.5	267.20
50.0	262.30
50.5	257.50
51.0	252.70
51.5	247.90
52.0	243.20
52.5	238.50
53.0	233.90
53.5	229.30
54.0	224.70
54.5	220.20

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-LW-WH-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

55.0	215.60
55.5	211.10
56.0	207.00
56.5	202.60
57.0	198.40
57.5	194.20
58.0	190.00
58.5	185.80
59.0	181.80
59.5	177.80
60.0	173.80
60.5	170.00
61.0	166.10
61.5	162.10
62.0	158.20
62.5	154.30
63.0	150.50
63.5	146.70
64.0	142.90
64.5	139.20
65.0	135.50
65.5	131.80
66.0	128.10
66.5	124.50
67.0	121.00
67.5	117.50
68.0	114.00
68.5	110.60
69.0	107.20
69.5	103.80
70.0	100.40
70.5	97.10
71.0	93.82
71.5	90.56
72.0	87.34
72.5	84.17
73.0	81.01
73.5	77.88
74.0	74.78
74.5	71.68
75.0	68.62
75.5	65.60
76.0	62.58
76.5	59.59
77.0	56.64
77.5	53.70
78.0	50.80
78.5	47.95
79.0	45.12
79.5	42.32
80.0	39.59
80.5	36.90
81.0	34.24
81.5	31.60
82.0	29.01
82.5	26.46

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CANDELA TABULATION - (Cont.)

83.0	23.94
83.5	21.45
84.0	19.02
84.5	16.63
85.0	14.30
85.5	12.07
86.0	9.99
86.5	8.17
87.0	6.51
87.5	5.02
88.0	3.74
88.5	2.73
89.0	1.90
89.5	1.23
90.0	0.76
90.5	0.00
91.0	0.00
91.5	0.00
92.0	0.00
92.5	0.00
93.0	0.00
93.5	0.00
94.0	0.00
94.5	0.00
95.0	0.00
95.5	0.00
96.0	0.00
96.5	0.00
97.0	0.00
97.5	0.00
98.0	0.00
98.5	0.00
99.0	0.00
99.5	0.00
100.0	0.00
100.5	0.00
101.0	0.00
101.5	0.00
102.0	0.00
102.5	0.00
103.0	0.00
103.5	0.00
104.0	0.00
104.5	0.00
105.0	0.00
105.5	0.00
106.0	0.00
106.5	0.00
107.0	0.00
107.5	0.00
108.0	0.00
108.5	0.00
109.0	0.00
109.5	0.00
110.0	0.00
110.5	0.00

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-LW-WH-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

111.0	0.00
111.5	0.00
112.0	0.00
112.5	0.00
113.0	0.00
113.5	0.00
114.0	0.00
114.5	0.00
115.0	0.00
115.5	0.00
116.0	0.00
116.5	0.00
117.0	0.00
117.5	0.00
118.0	0.00
118.5	0.00
119.0	0.00
119.5	0.00
120.0	0.00
120.5	0.00
121.0	0.00
121.5	0.00
122.0	0.00
122.5	0.00
123.0	0.00
123.5	0.00
124.0	0.00
124.5	0.00
125.0	0.00
125.5	0.00
126.0	0.00
126.5	0.00
127.0	0.00
127.5	0.00
128.0	0.00
128.5	0.00
129.0	0.00
129.5	0.00
130.0	0.00
130.5	0.00
131.0	0.00
131.5	0.00
132.0	0.00
132.5	0.00
133.0	0.00
133.5	0.00
134.0	0.00
134.5	0.00
135.0	0.00
135.5	0.00
136.0	0.00
136.5	0.00
137.0	0.00
137.5	0.00
138.0	0.00
138.5	0.00

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-LW-WH-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

139.0	0.00
139.5	0.00
140.0	0.00
140.5	0.00
141.0	0.00
141.5	0.00
142.0	0.00
142.5	0.00
143.0	0.00
143.5	0.00
144.0	0.00
144.5	0.00
145.0	0.00
145.5	0.00
146.0	0.00
146.5	0.00
147.0	0.00
147.5	0.00
148.0	0.00
148.5	0.00
149.0	0.00
149.5	0.00
150.0	0.00
150.5	0.00
151.0	0.00
151.5	0.00
152.0	0.00
152.5	0.00
153.0	0.00
153.5	0.00
154.0	0.00
154.5	0.00
155.0	0.00
155.5	0.00
156.0	0.00
156.5	0.00
157.0	0.00
157.5	0.00
158.0	0.00
158.5	0.00
159.0	0.00
159.5	0.00
160.0	0.00
160.5	0.00
161.0	0.00
161.5	0.00
162.0	0.00
162.5	0.00
163.0	0.00
163.5	0.00
164.0	0.00
164.5	0.00
165.0	0.00
165.5	0.00
166.0	0.00
166.5	0.00

CANDELA TABULATION - (Cont.)

167.0	0.00
167.5	0.00
168.0	0.00
168.5	0.00
169.0	0.00
169.5	0.00
170.0	0.00
170.5	0.00
171.0	0.00
171.5	0.00
172.0	0.00
172.5	0.00
173.0	0.00
173.5	0.00
174.0	0.00
174.5	0.00
175.0	0.00
175.5	0.00
176.0	0.00
176.5	0.00
177.0	0.00
177.5	0.00
178.0	0.00
178.5	0.00
179.0	0.00
179.5	0.00
180.0	0.00

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Zone	Lumens	%Lamp	%Fixt
0-20	201.99	N.A.	15.20
0-30	422.64	N.A.	31.70
0-40	674.20	N.A.	50.60
0-60	1107.45	N.A.	83.10
0-80	1314.82	N.A.	98.70
0-90	1332.49	N.A.	100.00
10-90	1279.79	N.A.	96.00
20-40	472.21	N.A.	35.40
20-50	712.02	N.A.	53.40
40-70	567.81	N.A.	42.60
60-80	207.37	N.A.	15.60
70-80	72.81	N.A.	5.50
80-90	17.68	N.A.	1.30
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1332.51	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	52.70
10-20	149.29
20-30	220.65
30-40	251.56
40-50	239.81
50-60	193.44
60-70	134.56
70-80	72.81
80-90	17.68
90-100	0.02
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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	44	39	50	44	39	49	43	39	37
8	63	49	41	36	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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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

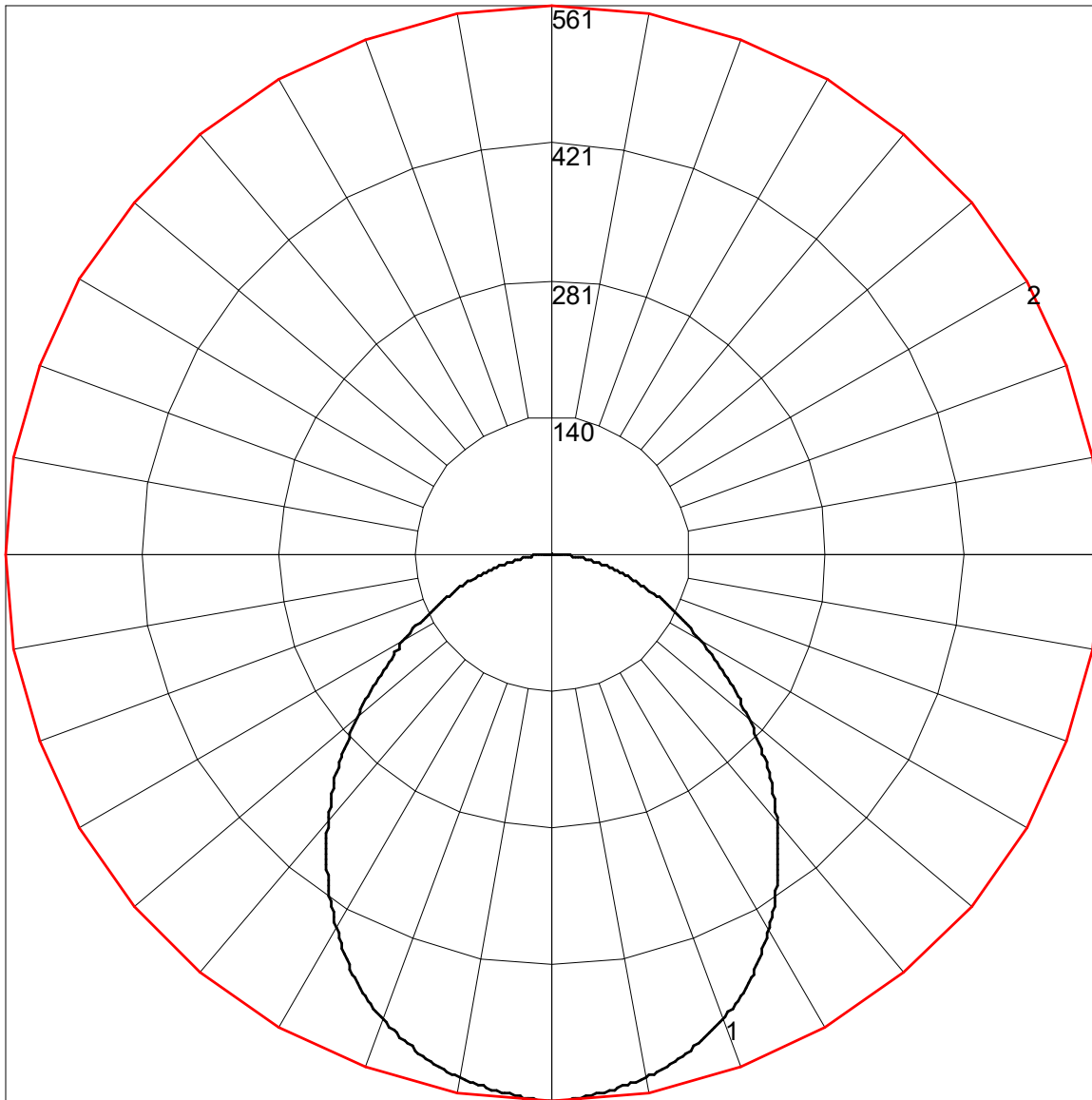
X=2H	Y=2H	23.7	25.3	24.1	25.6	25.9	23.7	25.3	24.1	25.6	25.9
	3H	25.3	26.7	25.7	27.1	27.4	25.3	26.7	25.7	27.1	27.4
	4H	25.9	27.2	26.3	27.6	27.9	25.9	27.2	26.3	27.6	27.9
	6H	26.3	27.5	26.7	27.9	28.3	26.3	27.5	26.7	27.9	28.3
	8H	26.4	27.6	26.8	28.0	28.4	26.4	27.6	26.8	28.0	28.4
	12H	26.5	27.6	26.9	28.0	28.4	26.5	27.6	26.9	28.0	28.4

UGR Viewed Endwise

4H	2H	24.3	25.6	24.7	26.0	26.3	24.3	25.6	24.7	26.0	26.3
	3H	26.1	27.2	26.5	27.6	28.0	26.1	27.2	26.5	27.6	28.0
	4H	26.8	27.8	27.2	28.2	28.6	26.8	27.8	27.2	28.2	28.6
	6H	27.3	28.2	27.8	28.6	29.1	27.3	28.2	27.8	28.6	29.1
	8H	27.4	28.3	27.9	28.7	29.2	27.4	28.3	27.9	28.7	29.2
	12H	27.5	28.3	28.0	28.7	29.2	27.5	28.3	28.0	28.7	29.2
8H	4H	27.0	27.8	27.5	28.3	28.8	27.0	27.8	27.5	28.3	28.8
	6H	27.6	28.3	28.1	28.8	29.3	27.6	28.3	28.1	28.8	29.3
	8H	27.9	28.5	28.4	29.0	29.5	27.9	28.5	28.4	29.0	29.5
	12H	28.0	28.5	28.5	29.0	29.6	28.0	28.5	28.5	29.0	29.6
12H	4H	27.1	27.8	27.5	28.3	28.7	27.1	27.8	27.5	28.3	28.7
	6H	27.7	28.3	28.2	28.8	29.3	27.7	28.3	28.2	28.8	29.3
	8H	27.9	28.5	28.5	29.0	29.5	27.9	28.5	28.5	29.0	29.5

Maximum UGR = 29.6

POLAR GRAPH



Maximum Candela = 561 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.)