



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-840-XXX-DIM-UNV-ON-SPC-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.05
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 26-JAN-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 6CR-TL-L20-840-xxx-DIM-UNV-ON-SPC-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	2065
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	19.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.18
Spacing Criterion (90-270)	0.18
Spacing Criterion (Diagonal)	0.20
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	1419	1419	1419
55	350	350	350
65	237	237	237
75	0	0	0
85	0	0	0

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CANDELA TABULATION

	<u>0</u>
0.0	21958.655
0.5	21804.090
1.0	21227.044
1.5	20392.388
2.0	19217.688
2.5	17847.204
3.0	16497.329
3.5	15147.454
4.0	13828.492
4.5	12499.225
5.0	11015.393
5.5	9486.222
6.0	8179.625
6.5	7226.469
7.0	6462.914
7.5	5846.711
8.0	5328.400
8.5	4886.342
9.0	4510.232
9.5	4178.430
10.0	3894.029
10.5	3645.693
11.0	3433.423
11.5	3246.913
12.0	3084.104
12.5	2942.934
13.0	2821.342
13.5	2713.146
14.0	2617.315
14.5	2527.667
15.0	2444.201
15.5	2362.797
16.0	2279.331
16.5	2196.896
17.0	2113.430
17.5	2030.995
18.0	1948.560
18.5	1863.034
19.0	1776.477
19.5	1689.920
20.0	1602.333
20.5	1514.745
21.0	1427.158
21.5	1341.632
22.0	1266.410
22.5	1197.370
23.0	1134.513
23.5	1077.839
24.0	1026.317
24.5	978.917
25.0	939.760
25.5	908.847
26.0	887.208
26.5	870.721

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CANDELA TABULATION - (Cont.)

27.0	855.264
27.5	835.686
28.0	806.834
28.5	771.799
29.0	731.612
29.5	687.303
30.0	638.872
30.5	587.350
31.0	525.524
31.5	458.545
32.0	389.506
32.5	322.527
33.0	261.732
33.5	212.270
34.0	166.931
34.5	127.774
35.0	91.709
35.5	62.857
36.0	41.218
36.5	27.822
37.0	23.700
37.5	22.670
38.0	21.639
38.5	20.609
39.0	19.578
39.5	18.548
40.0	17.517
40.5	16.487
41.0	16.487
41.5	15.457
42.0	14.426
42.5	14.426
43.0	13.396
43.5	12.365
44.0	11.335
44.5	11.335
45.0	10.304
45.5	10.304
46.0	9.274
46.5	8.244
47.0	8.244
47.5	7.213
48.0	7.213
48.5	6.183
49.0	6.183
49.5	6.183
50.0	5.152
50.5	5.152
51.0	4.122
51.5	4.122
52.0	4.122
52.5	3.091
53.0	3.091
53.5	3.091
54.0	3.091
54.5	3.091

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CANDELA TABULATION - (Cont.)

55.0	2.061
55.5	2.061
56.0	2.061
56.5	2.061
57.0	2.061
57.5	2.061
58.0	2.061
58.5	2.061
59.0	1.030
59.5	1.030
60.0	1.030
60.5	1.030
61.0	1.030
61.5	1.030
62.0	1.030
62.5	1.030
63.0	1.030
63.5	1.030
64.0	1.030
64.5	1.030
65.0	1.030
65.5	1.030
66.0	1.030
66.5	1.030
67.0	1.030
67.5	1.030
68.0	0.000
68.5	1.030
69.0	0.000
69.5	0.000
70.0	0.000
70.5	0.000
71.0	0.000
71.5	0.000
72.0	0.000
72.5	0.000
73.0	0.000
73.5	0.000
74.0	0.000
74.5	0.000
75.0	0.000
75.5	0.000
76.0	0.000
76.5	0.000
77.0	0.000
77.5	0.000
78.0	0.000
78.5	0.000
79.0	0.000
79.5	0.000
80.0	0.000
80.5	0.000
81.0	0.000
81.5	0.000
82.0	0.000
82.5	0.000

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CANDELA TABULATION - (Cont.)

83.0	0.000
83.5	0.000
84.0	0.000
84.5	0.000
85.0	0.000
85.5	0.000
86.0	0.000
86.5	0.000
87.0	0.000
87.5	0.000
88.0	0.000
88.5	0.000
89.0	0.000
89.5	0.000
90.0	0.000
90.5	0.000
91.0	0.000
91.5	0.000
92.0	0.000
92.5	0.000
93.0	0.000
93.5	0.000
94.0	0.000
94.5	0.000
95.0	0.000
95.5	0.000
96.0	0.000
96.5	0.000
97.0	0.000
97.5	0.000
98.0	0.000
98.5	0.000
99.0	0.000
99.5	0.000
100.0	0.000
100.5	0.000
101.0	0.000
101.5	0.000
102.0	0.000
102.5	0.000
103.0	0.000
103.5	0.000
104.0	0.000
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

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CANDELA TABULATION - (Cont.)

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
117.5	0.000
118.0	0.000
118.5	0.000
119.0	0.000
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
130.5	0.000
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131.5	0.000
132.0	0.000
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133.0	0.000
133.5	0.000
134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

CANDELA TABULATION - (Cont.)

139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
144.0	0.000
144.5	0.000
145.0	0.000
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
152.0	0.000
152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
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156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
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159.0	0.000
159.5	0.000
160.0	0.000
160.5	0.000
161.0	0.000
161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

CANDELA TABULATION - (Cont.)

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1485.02	N.A.	71.90
0-30	1944.43	N.A.	94.20
0-40	2053.45	N.A.	99.40
0-60	2064.1	N.A.	100.00
0-80	2064.94	N.A.	100.00
0-90	2064.94	N.A.	100.00
10-90	1264.04	N.A.	61.20
20-40	568.43	N.A.	27.50
20-50	576.66	N.A.	27.90
40-70	11.49	N.A.	0.60
60-80	0.84	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	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	2064.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	800.90
10-20	684.12
20-30	459.41
30-40	109.02
40-50	8.24
50-60	2.42
60-70	0.84
70-80	0.00
80-90	0.00
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	115	113	111	109	113	111	109	108	107	105	104	103	102	101	100	99	98	97
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	99	96	106	102	98	96	99	96	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	91	96	93	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	88	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	91	87	84	90	86	84	89	86	83	87	85	83	82
7	95	89	85	82	94	88	84	81	87	84	81	86	83	81	85	82	80	79
8	93	86	82	79	92	85	82	79	85	81	78	84	80	78	83	80	78	77
9	90	83	79	77	89	83	79	76	82	79	76	81	78	76	81	78	76	75
10	88	81	77	74	87	81	77	74	80	76	74	79	76	74	79	76	74	73

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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

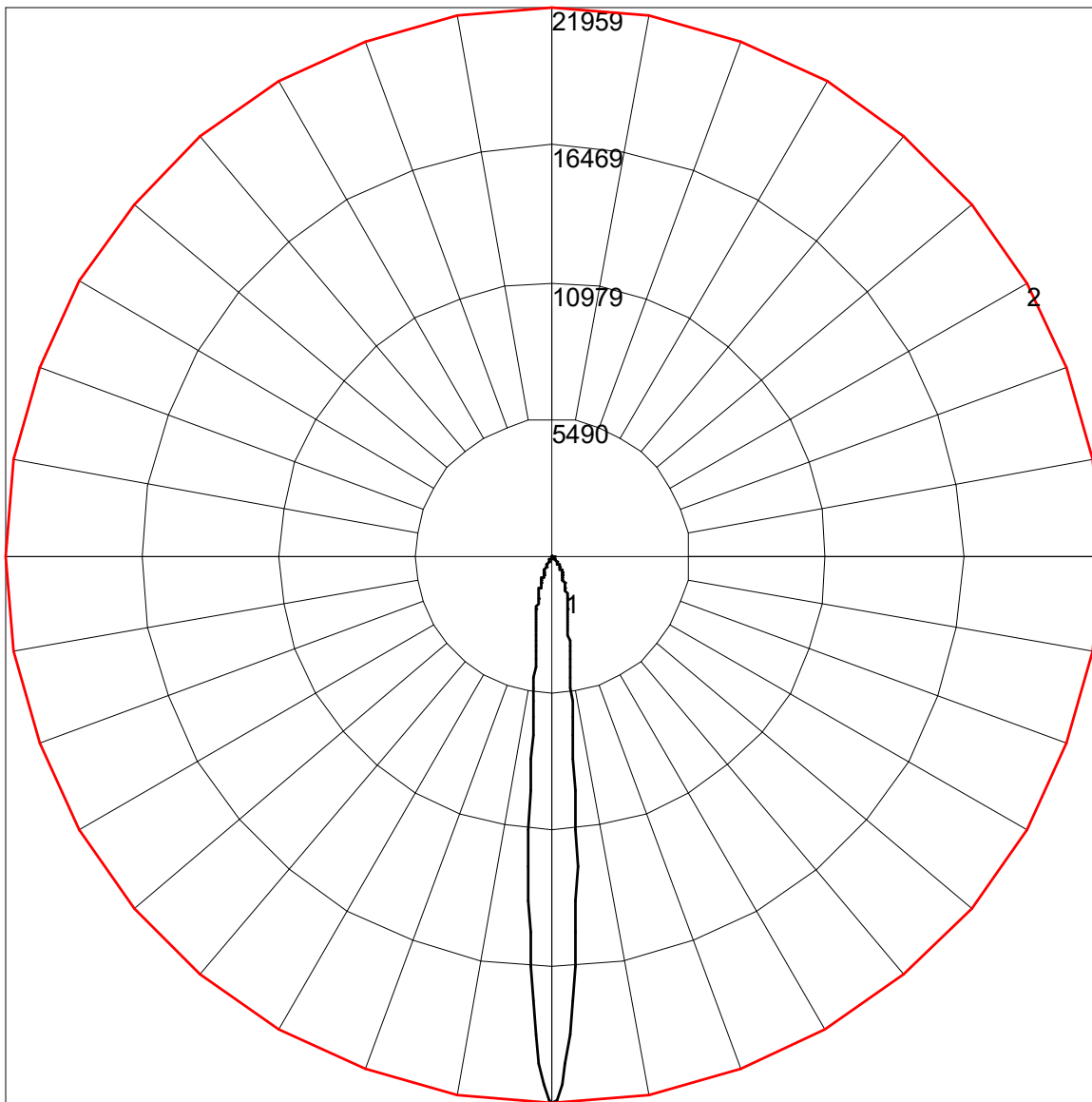
X=2H	Y=2H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	3H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	12H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

UGR Viewed Endwise

4H	2H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	3H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	12H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
8H	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	12H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
12H	4H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	6H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	8H	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

Maximum UGR = 2.8

POLAR GRAPH



Maximum Candela = 21958.655 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.)