



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 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-L20-830-xxx-DIM-UNV-RW-WH-xx

[LUMINAIRE] 6" DIA. CURFACE 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	1270
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	64
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	29386	29386	29386
55	23728	23728	23728
65	15349	15349	15349
75	8559	8559	8559
85	4397	4397	4397

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CANDELA TABULATION

	<u>0</u>
0.0	1020.480
0.5	1020.480
1.0	1019.520
1.5	1017.600
2.0	1015.680
2.5	1013.760
3.0	1010.880
3.5	1008.000
4.0	1005.120
4.5	1001.280
5.0	998.400
5.5	994.560
6.0	990.720
6.5	986.880
7.0	983.040
7.5	979.200
8.0	975.360
8.5	970.560
9.0	966.720
9.5	962.880
10.0	959.232
10.5	955.296
11.0	951.264
11.5	947.328
12.0	943.584
12.5	939.840
13.0	936.096
13.5	932.256
14.0	928.416
14.5	924.576
15.0	920.640
15.5	916.608
16.0	912.384
16.5	908.160
17.0	903.840
17.5	899.232
18.0	894.336
18.5	889.056
19.0	883.968
19.5	878.496
20.0	872.544
20.5	865.728
21.0	857.856
21.5	849.312
22.0	839.520
22.5	828.672
23.0	816.384
23.5	802.560
24.0	787.392
24.5	770.208
25.0	751.008
25.5	729.792
26.0	706.848
26.5	682.464

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CANDELA TABULATION - (Cont.)

27.0	656.832
27.5	630.816
28.0	603.552
28.5	576.576
29.0	549.696
29.5	522.816
30.0	496.416
30.5	470.496
31.0	446.016
31.5	422.304
32.0	399.936
32.5	379.104
33.0	359.808
33.5	342.432
34.0	326.784
34.5	313.152
35.0	301.152
35.5	290.976
36.0	282.048
36.5	274.560
37.0	267.936
37.5	262.272
38.0	257.088
38.5	252.480
39.0	248.352
39.5	244.608
40.0	241.248
40.5	238.080
41.0	235.008
41.5	232.224
42.0	229.440
42.5	226.848
43.0	224.256
43.5	221.568
44.0	218.880
44.5	216.192
45.0	213.408
45.5	210.528
46.0	207.552
46.5	204.480
47.0	201.312
47.5	198.048
48.0	194.784
48.5	191.328
49.0	187.776
49.5	184.032
50.0	180.288
50.5	176.448
51.0	172.416
51.5	168.480
52.0	164.448
52.5	160.416
53.0	156.576
53.5	152.352
54.0	148.128
54.5	143.904

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CANDELA TABULATION - (Cont.)

55.0	139.776
55.5	135.552
56.0	131.424
56.5	127.392
57.0	123.360
57.5	119.328
58.0	115.392
58.5	111.552
59.0	107.712
59.5	103.968
60.0	100.224
60.5	96.576
61.0	93.024
61.5	89.472
62.0	86.112
62.5	82.656
63.0	79.392
63.5	76.032
64.0	72.864
64.5	69.696
65.0	66.624
65.5	63.552
66.0	60.576
66.5	57.696
67.0	54.912
67.5	52.128
68.0	49.440
68.5	46.752
69.0	44.160
69.5	41.664
70.0	39.360
70.5	37.152
71.0	35.136
71.5	33.216
72.0	31.392
72.5	29.664
73.0	28.032
73.5	26.592
74.0	25.152
74.5	23.904
75.0	22.752
75.5	21.696
76.0	20.544
76.5	19.488
77.0	18.432
77.5	17.376
78.0	16.416
78.5	15.360
79.0	14.400
79.5	13.440
80.0	12.480
80.5	11.520
81.0	10.656
81.5	9.792
82.0	8.832
82.5	8.064

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CANDELA TABULATION - (Cont.)

83.0	7.200
83.5	6.336
84.0	5.568
84.5	4.704
85.0	3.936
85.5	3.264
86.0	2.592
86.5	2.112
87.0	1.632
87.5	1.248
88.0	0.864
88.5	0.576
89.0	0.288
89.5	0.096
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
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
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

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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
155.0	0.000
155.5	0.000
156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
158.0	0.000
158.5	0.000
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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	353.22	N.A.	27.80
0-30	683.53	N.A.	53.80
0-40	884.82	N.A.	69.60
0-60	1173.4	N.A.	92.40
0-80	1265.22	N.A.	99.60
0-90	1270.41	N.A.	100.00
10-90	1176.43	N.A.	92.60
20-40	531.59	N.A.	41.80
20-50	695.37	N.A.	54.70
40-70	355.33	N.A.	28.00
60-80	91.82	N.A.	7.20
70-80	25.07	N.A.	2.00
80-90	5.19	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	1270.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	93.99
10-20	259.24
20-30	330.31
30-40	201.29
40-50	163.77
50-60	124.81
60-70	66.75
70-80	25.07
80-90	5.19
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

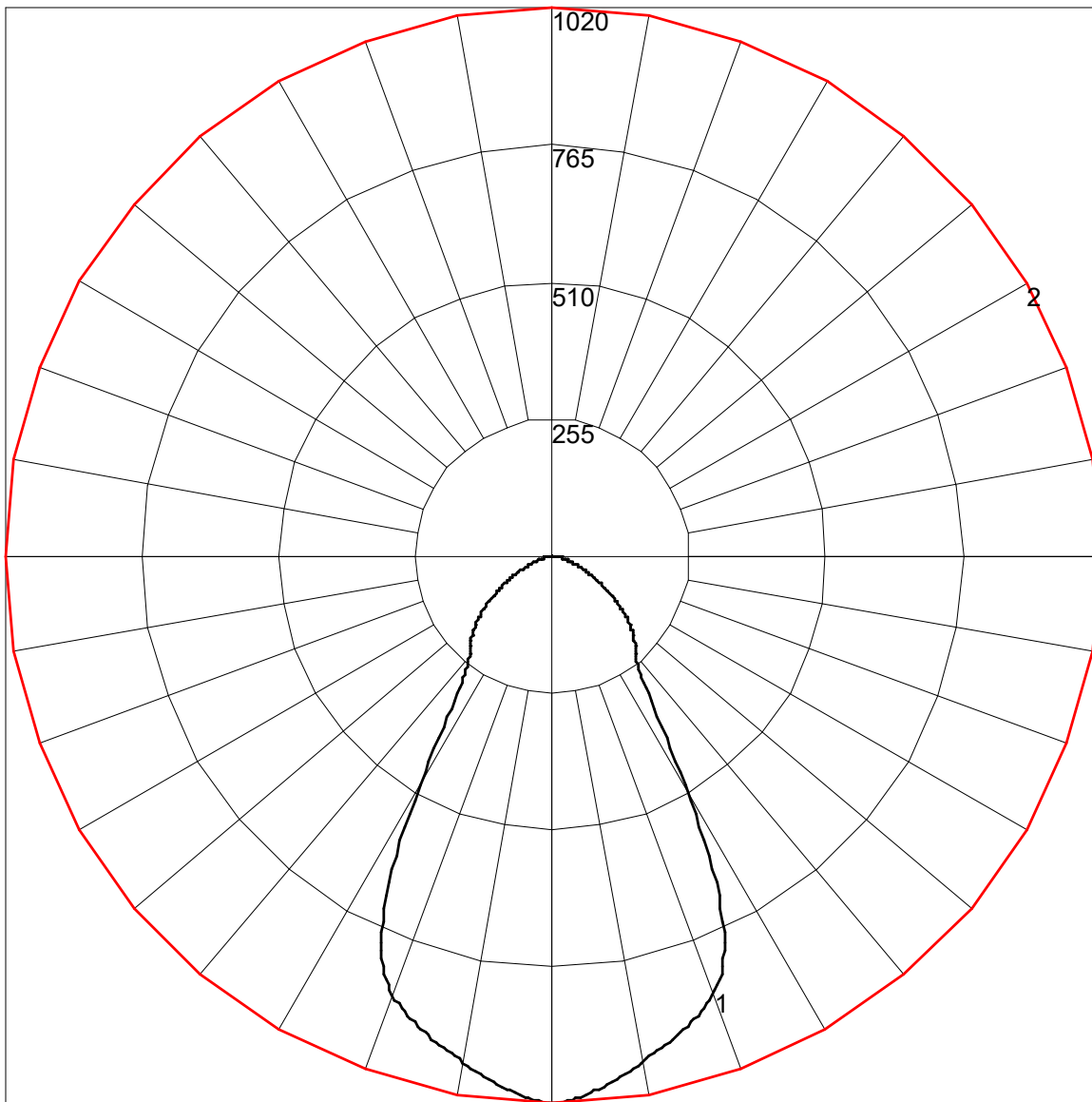
X=2H	Y=2H	20.4	21.7	20.8	22.0	22.3	20.4	21.7	20.8	22.0	22.3
	3H	21.2	22.3	21.5	22.7	23.0	21.2	22.3	21.5	22.7	23.0
	4H	21.3	22.4	21.7	22.8	23.1	21.3	22.4	21.7	22.8	23.1
	6H	21.5	22.4	21.9	22.8	23.2	21.5	22.4	21.9	22.8	23.2
	8H	21.5	22.4	21.9	22.8	23.2	21.5	22.4	21.9	22.8	23.2
	12H	21.4	22.3	21.9	22.7	23.2	21.4	22.3	21.9	22.7	23.2

UGR Viewed Endwise

4H	2H	20.7	21.8	21.1	22.1	22.5	20.7	21.8	21.1	22.1	22.5
	3H	21.6	22.5	22.0	22.9	23.3	21.6	22.5	22.0	22.9	23.3
	4H	21.8	22.6	22.2	23.0	23.5	21.8	22.6	22.2	23.0	23.5
	6H	22.0	22.7	22.5	23.1	23.6	22.0	22.7	22.5	23.1	23.6
	8H	22.0	22.7	22.5	23.1	23.6	22.0	22.7	22.5	23.1	23.6
	12H	22.0	22.6	22.5	23.1	23.5	22.0	22.6	22.5	23.1	23.5
8H	4H	21.9	22.5	22.3	22.9	23.4	21.9	22.5	22.3	22.9	23.4
	6H	22.1	22.6	22.6	23.1	23.6	22.1	22.6	22.6	23.1	23.6
	8H	22.1	22.6	22.7	23.1	23.6	22.1	22.6	22.7	23.1	23.6
	12H	22.2	22.6	22.7	23.1	23.6	22.2	22.6	22.7	23.1	23.6
12H	4H	21.8	22.4	22.3	22.9	23.3	21.8	22.4	22.3	22.9	23.3
	6H	22.1	22.5	22.6	23.0	23.5	22.1	22.5	22.6	23.0	23.5
	8H	22.2	22.6	22.7	23.0	23.6	22.2	22.6	22.7	23.0	23.6

Maximum UGR = 23.6

POLAR GRAPH



Maximum Candela = 1020.48 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.)