



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-830-XXX-DIM-UNV-LW-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.07

[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-LW-CS-xx

[LUMINAIRE] 6" DIA. SURFACE CYLINDER

[LAMP] One white LED

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1298
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	66
Total Luminaire Watts	19.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
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	35811	35811	35811
55	29426	29426	29426
65	21527	21527	21527
75	14902	14902	14902
85	8124	8124	8124

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CANDELA TABULATION

	<u>0</u>
0.0	911.576
0.5	911.288
1.0	910.712
1.5	909.944
2.0	909.176
2.5	908.312
3.0	907.160
3.5	906.488
4.0	906.008
4.5	905.720
5.0	905.336
5.5	904.952
6.0	904.664
6.5	904.280
7.0	903.992
7.5	903.800
8.0	903.704
8.5	903.416
9.0	903.128
9.5	902.552
10.0	902.168
10.5	901.496
11.0	900.824
11.5	899.960
12.0	898.999
12.5	897.847
13.0	896.503
13.5	894.967
14.0	893.047
14.5	890.743
15.0	887.959
15.5	884.599
16.0	880.854
16.5	876.438
17.0	871.638
17.5	866.261
18.0	859.925
18.5	853.397
19.0	846.292
19.5	838.324
20.0	829.587
20.5	820.083
21.0	809.810
21.5	798.769
22.0	786.577
22.5	773.616
23.0	759.695
23.5	744.718
24.0	728.589
24.5	711.404
25.0	692.779
25.5	673.290
26.0	652.456
26.5	630.375

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CANDELA TABULATION - (Cont.)

27.0	607.525
27.5	583.716
28.0	559.523
28.5	535.233
29.0	511.424
29.5	488.094
30.0	465.629
30.5	444.507
31.0	424.730
31.5	406.681
32.0	390.264
32.5	375.479
33.0	362.326
33.5	350.614
34.0	340.149
34.5	330.932
35.0	322.580
35.5	314.995
36.0	308.275
36.5	301.939
37.0	296.178
37.5	290.802
38.0	285.810
38.5	281.009
39.0	276.593
39.5	272.273
40.0	268.241
40.5	264.208
41.0	260.368
41.5	256.624
42.0	253.072
42.5	249.519
43.0	245.967
43.5	242.415
44.0	238.863
44.5	235.311
45.0	231.758
45.5	228.206
46.0	224.654
46.5	221.102
47.0	217.357
47.5	213.613
48.0	209.869
48.5	206.029
49.0	202.092
49.5	198.156
50.0	194.316
50.5	190.380
51.0	186.444
51.5	182.507
52.0	178.667
52.5	174.827
53.0	170.891
53.5	166.858
54.0	162.730
54.5	158.602

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CANDELA TABULATION - (Cont.)

55.0	154.474
55.5	150.345
56.0	146.313
56.5	142.377
57.0	138.441
57.5	134.504
58.0	130.664
58.5	126.920
59.0	123.176
59.5	119.527
60.0	115.975
60.5	112.423
61.0	108.967
61.5	105.607
62.0	102.246
62.5	98.886
63.0	95.680
63.5	92.492
64.0	89.362
64.5	86.281
65.0	83.266
65.5	80.328
66.0	77.429
66.5	74.606
67.0	71.851
67.5	69.143
68.0	66.523
68.5	63.959
69.0	61.396
69.5	58.919
70.0	56.509
70.5	54.138
71.0	51.824
71.5	49.568
72.0	47.389
72.5	45.238
73.0	43.145
73.5	41.110
74.0	39.113
74.5	37.183
75.0	35.301
75.5	33.477
76.0	31.692
76.5	29.954
77.0	28.293
77.5	26.642
78.0	25.048
78.5	23.502
79.0	21.985
79.5	20.526
80.0	19.096
80.5	17.703
81.0	16.331
81.5	14.996
82.0	13.690
82.5	12.423

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CANDELA TABULATION - (Cont.)

83.0	11.165
83.5	9.946
84.0	8.756
84.5	7.594
85.0	6.480
85.5	5.405
86.0	4.378
86.5	3.408
87.0	2.554
87.5	1.843
88.0	1.286
88.5	0.816
89.0	0.509
89.5	0.346
90.0	0.240
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
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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
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148.5	0.000
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150.0	0.000
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151.0	0.000
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152.0	0.000
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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
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

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	334.84	N.A.	25.80
0-30	642.26	N.A.	49.50
0-40	851.66	N.A.	65.60
0-60	1168.21	N.A.	90.00
0-80	1289.55	N.A.	99.40
0-90	1297.66	N.A.	100.00
10-90	1211.32	N.A.	93.30
20-40	516.82	N.A.	39.80
20-50	695.31	N.A.	53.60
40-70	399.80	N.A.	30.80
60-80	121.34	N.A.	9.40
70-80	38.09	N.A.	2.90
80-90	8.12	N.A.	0.60
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	1297.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	86.34
10-20	248.50
20-30	307.42
30-40	209.40
40-50	178.48
50-60	138.06
60-70	83.26
70-80	38.09
80-90	8.12
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37

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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

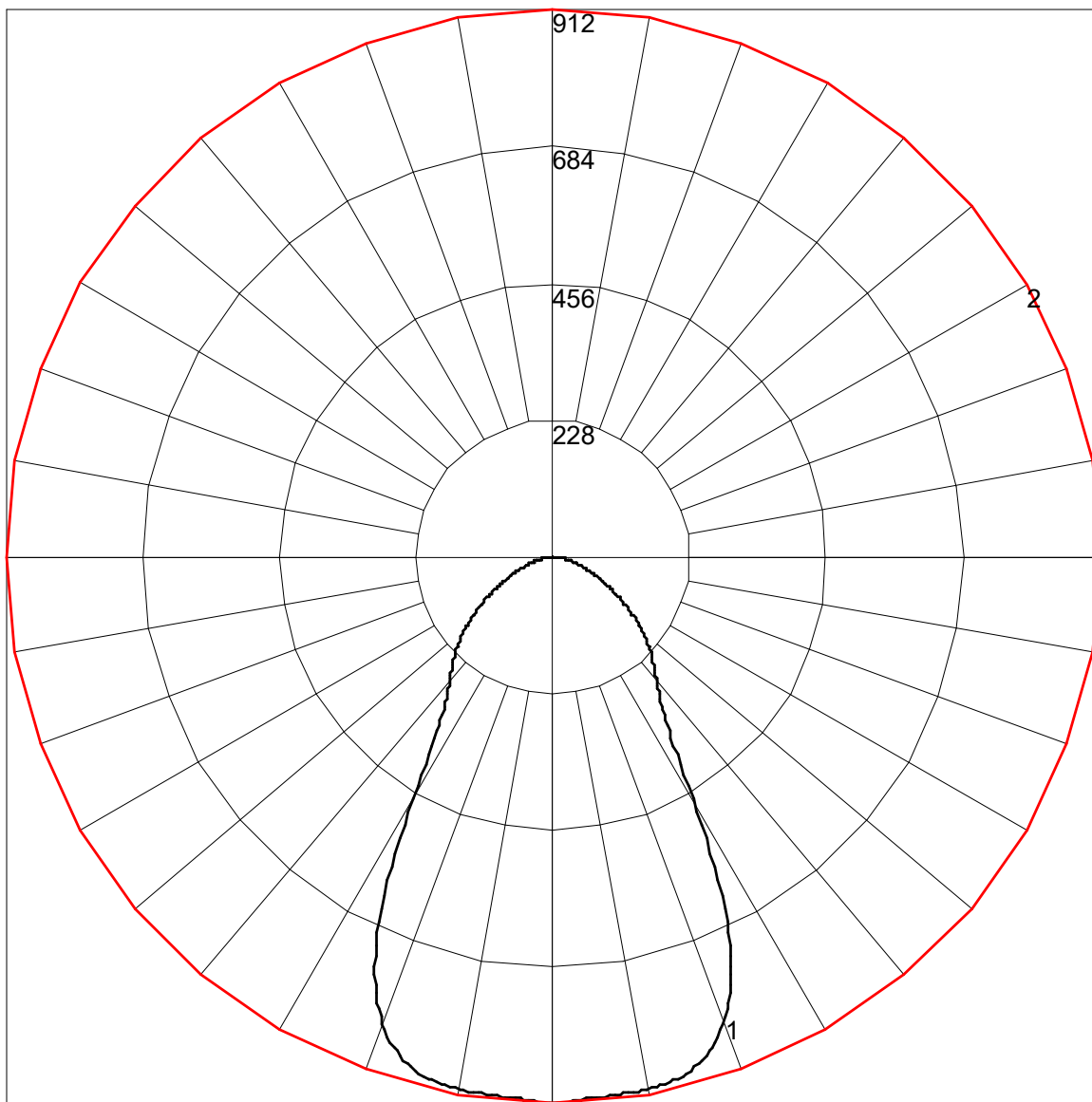
X=2H	Y=2H	21.5	22.9	21.9	23.2	23.5	21.5	22.9	21.9	23.2	23.5
	3H	22.6	23.8	23.0	24.2	24.5	22.6	23.8	23.0	24.2	24.5
	4H	23.0	24.1	23.4	24.5	24.8	23.0	24.1	23.4	24.5	24.8
	6H	23.2	24.2	23.6	24.6	25.0	23.2	24.2	23.6	24.6	25.0
	8H	23.2	24.2	23.7	24.6	25.0	23.2	24.2	23.7	24.6	25.0
	12H	23.2	24.2	23.7	24.6	25.0	23.2	24.2	23.7	24.6	25.0

UGR Viewed Endwise

4H	2H	21.9	23.0	22.3	23.4	23.7	21.9	23.0	22.3	23.4	23.7
	3H	23.2	24.1	23.6	24.5	24.9	23.2	24.1	23.6	24.5	24.9
	4H	23.6	24.5	24.0	24.9	25.3	23.6	24.5	24.0	24.9	25.3
	6H	23.9	24.7	24.4	25.1	25.6	23.9	24.7	24.4	25.1	25.6
	8H	24.0	24.7	24.5	25.1	25.6	24.0	24.7	24.5	25.1	25.6
	12H	24.0	24.6	24.5	25.1	25.6	24.0	24.6	24.5	25.1	25.6
8H	4H	23.7	24.4	24.2	24.9	25.3	23.7	24.4	24.2	24.9	25.3
	6H	24.1	24.7	24.6	25.2	25.7	24.1	24.7	24.6	25.2	25.7
	8H	24.2	24.7	24.8	25.3	25.7	24.2	24.7	24.8	25.3	25.7
	12H	24.3	24.8	24.8	25.2	25.8	24.3	24.8	24.8	25.2	25.8
12H	4H	23.7	24.3	24.2	24.8	25.3	23.7	24.3	24.2	24.8	25.3
	6H	24.1	24.6	24.7	25.1	25.6	24.1	24.6	24.7	25.1	25.6
	8H	24.3	24.7	24.8	25.2	25.8	24.3	24.7	24.8	25.2	25.8

Maximum UGR = 25.8

POLAR GRAPH



Maximum Candela = 911.576 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.)