



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L40-927-XXX-DIM-UNV-LM-CS-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12316380.09

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 27-JAN-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 6CR-TL-L40-927-xxx-DIM-UNV-LM-CS-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	2719
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	72
Total Luminaire Watts	38
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.54
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	20632	20632	20632
55	16081	16081	16081
65	13440	13440	13440
75	10813	10813	10813
85	6460	6460	6460

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CANDELA TABULATION

	<u>0</u>
0.0	7035.452
0.5	7032.421
1.0	7021.812
1.5	7005.140
2.0	6983.921
2.5	6955.125
3.0	6921.782
3.5	6882.376
4.0	6836.907
4.5	6788.408
5.0	6733.846
5.5	6673.222
6.0	6606.535
6.5	6532.270
7.0	6451.943
7.5	6364.038
8.0	6268.554
8.5	6165.493
9.0	6056.369
9.5	5938.152
10.0	5810.841
10.5	5674.436
11.0	5531.969
11.5	5381.924
12.0	5222.785
12.5	5057.584
13.0	4884.804
13.5	4705.963
14.0	4519.543
14.5	4327.061
15.0	4133.063
15.5	3936.034
16.0	3739.005
16.5	3540.460
17.0	3343.431
17.5	3152.465
18.0	2963.014
18.5	2781.141
19.0	2606.846
19.5	2438.613
20.0	2279.474
20.5	2126.398
21.0	1983.931
21.5	1849.042
22.0	1721.731
22.5	1603.513
23.0	1491.964
23.5	1387.994
24.0	1291.450
24.5	1201.271
25.0	1117.609
25.5	1039.859
26.0	966.958
26.5	899.665

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	836.919
<b>27.5</b>	779.477
<b>28.0</b>	725.976
<b>28.5</b>	676.567
<b>29.0</b>	631.251
<b>29.5</b>	588.965
<b>30.0</b>	549.711
<b>30.5</b>	513.488
<b>31.0</b>	479.993
<b>31.5</b>	449.226
<b>32.0</b>	420.733
<b>32.5</b>	394.513
<b>33.0</b>	370.415
<b>33.5</b>	348.135
<b>34.0</b>	327.826
<b>34.5</b>	309.032
<b>35.0</b>	292.058
<b>35.5</b>	276.295
<b>36.0</b>	261.897
<b>36.5</b>	248.711
<b>37.0</b>	236.586
<b>37.5</b>	225.522
<b>38.0</b>	215.519
<b>38.5</b>	206.274
<b>39.0</b>	197.787
<b>39.5</b>	190.057
<b>40.0</b>	182.934
<b>40.5</b>	176.265
<b>41.0</b>	170.051
<b>41.5</b>	164.443
<b>42.0</b>	159.139
<b>42.5</b>	154.137
<b>43.0</b>	149.591
<b>43.5</b>	145.195
<b>44.0</b>	141.103
<b>44.5</b>	137.314
<b>45.0</b>	133.525
<b>45.5</b>	130.039
<b>46.0</b>	126.856
<b>46.5</b>	123.674
<b>47.0</b>	120.642
<b>47.5</b>	117.914
<b>48.0</b>	115.035
<b>48.5</b>	112.458
<b>49.0</b>	109.882
<b>49.5</b>	107.305
<b>50.0</b>	105.032
<b>50.5</b>	102.758
<b>51.0</b>	100.636
<b>51.5</b>	98.363
<b>52.0</b>	96.241
<b>52.5</b>	94.271
<b>53.0</b>	92.149
<b>53.5</b>	90.179
<b>54.0</b>	88.208
<b>54.5</b>	86.238

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CANDELA TABULATION - (Cont.)

55.0	84.419
55.5	82.601
56.0	80.782
56.5	78.963
57.0	76.993
57.5	75.326
58.0	73.659
58.5	72.143
59.0	70.476
59.5	68.809
60.0	67.141
60.5	65.474
61.0	64.110
61.5	62.443
62.0	60.927
62.5	59.412
63.0	57.896
63.5	56.532
64.0	55.017
64.5	53.501
65.0	51.985
65.5	50.621
66.0	49.257
66.5	47.893
67.0	46.378
67.5	45.014
68.0	43.650
68.5	42.285
69.0	40.921
69.5	39.557
70.0	38.193
70.5	36.981
71.0	35.768
71.5	34.253
72.0	33.040
72.5	31.828
73.0	30.615
73.5	29.251
74.0	28.039
74.5	26.826
75.0	25.614
75.5	24.401
76.0	23.189
76.5	21.976
77.0	20.764
77.5	19.854
78.0	18.642
78.5	17.581
79.0	16.520
79.5	15.459
80.0	14.398
80.5	13.337
81.0	12.276
81.5	11.519
82.0	10.306
82.5	9.548

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CANDELA TABULATION - (Cont.)

83.0	8.487
83.5	7.730
84.0	6.820
84.5	5.911
85.0	5.153
85.5	4.244
86.0	3.637
86.5	2.880
87.0	2.425
87.5	1.970
88.0	1.516
88.5	1.212
89.0	0.909
89.5	0.606
90.0	0.455
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

IES INDOOR REPORT  
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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
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134.5	0.000
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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

IES INDOOR REPORT  
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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
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162.0	0.000
162.5	0.000
163.0	0.000
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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
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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	1719.59	N.A.	63.20
0-30	2258.44	N.A.	83.10
0-40	2452.69	N.A.	90.20
0-60	2633.77	N.A.	96.90
0-80	2712.71	N.A.	99.80
0-90	2719.12	N.A.	100.00
10-90	2105.1	N.A.	77.40
20-40	733.09	N.A.	27.00
20-50	838.29	N.A.	30.80
40-70	232.78	N.A.	8.60
60-80	78.94	N.A.	2.90
70-80	27.24	N.A.	1.00
80-90	6.41	N.A.	0.20
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	2719.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	614.02
10-20	1105.58
20-30	538.85
30-40	194.24
40-50	105.20
50-60	75.88
60-70	51.70
70-80	27.24
80-90	6.41
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	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	101	97	107	103	99	96	99	97	94	96	94	92	94	92	90	89
3	104	98	94	90	102	97	93	89	94	91	88	92	89	87	90	87	85	84
4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76
6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	72
7	89	81	76	72	88	80	75	72	79	74	71	78	74	71	77	73	71	69
8	86	77	72	69	84	77	72	69	76	71	68	75	71	68	74	70	68	67
9	83	74	69	66	82	74	69	66	73	69	66	72	68	65	71	68	65	64
10	80	72	67	63	79	71	66	63	70	66	63	70	66	63	69	65	63	62

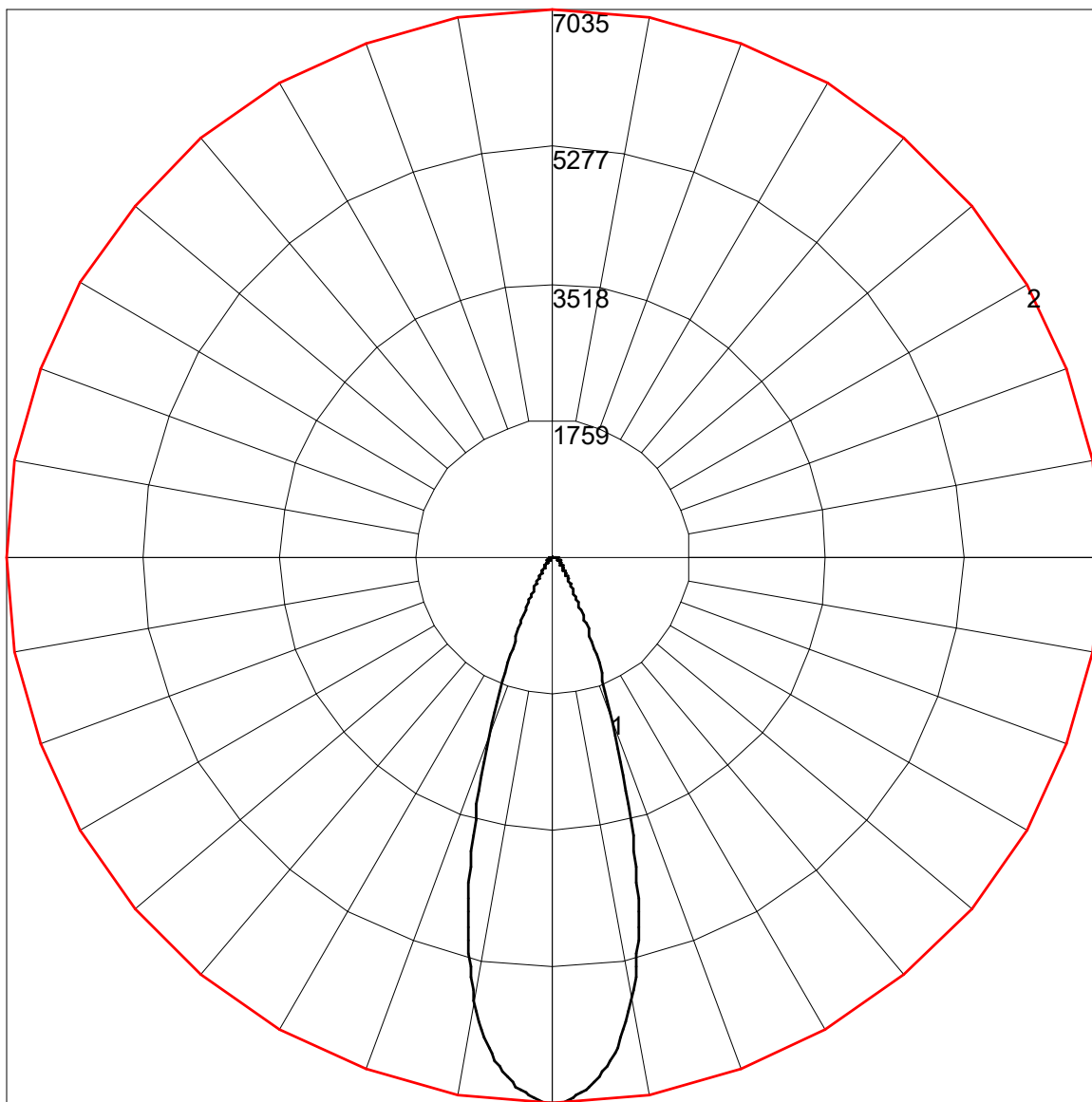
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**UGR TABLE - CORRECTED**

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					UGR Viewed Endwise				
X=2H	Y=2H	15.3	16.4	15.7	16.7	17.0	15.3	16.4	15.7	16.7	17.0
	3H	16.8	17.7	17.2	18.0	18.4	16.8	17.7	17.2	18.0	18.4
	4H	17.3	18.1	17.7	18.5	18.9	17.3	18.1	17.7	18.5	18.9
	6H	17.6	18.4	18.0	18.8	19.2	17.6	18.4	18.0	18.8	19.2
	8H	17.7	18.4	18.1	18.8	19.2	17.7	18.4	18.1	18.8	19.2
	12H	17.7	18.4	18.2	18.8	19.2	17.7	18.4	18.2	18.8	19.2
4H	2H	15.8	16.6	16.2	17.0	17.4	15.8	16.6	16.2	17.0	17.4
	3H	17.4	18.1	17.8	18.5	18.9	17.4	18.1	17.8	18.5	18.9
	4H	18.0	18.7	18.5	19.1	19.5	18.0	18.7	18.5	19.1	19.5
	6H	18.5	19.0	19.0	19.5	19.9	18.5	19.0	19.0	19.5	19.9
	8H	18.6	19.1	19.1	19.5	20.0	18.6	19.1	19.1	19.5	20.0
	12H	18.6	19.1	19.1	19.5	20.0	18.6	19.1	19.1	19.5	20.0
8H	4H	18.2	18.7	18.7	19.1	19.6	18.2	18.7	18.7	19.1	19.6
	6H	18.7	19.1	19.3	19.6	20.1	18.7	19.1	19.3	19.6	20.1
	8H	18.9	19.3	19.4	19.8	20.3	18.9	19.3	19.4	19.8	20.3
	12H	19.0	19.3	19.5	19.8	20.4	19.0	19.3	19.5	19.8	20.4
12H	4H	18.2	18.6	18.7	19.1	19.6	18.2	18.6	18.7	19.1	19.6
	6H	18.8	19.1	19.3	19.6	20.1	18.8	19.1	19.3	19.6	20.1
	8H	18.9	19.3	19.5	19.7	20.3	18.9	19.3	19.5	19.7	20.3

Maximum UGR = 20.4

POLAR GRAPH



Maximum Candela = 7035.452 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.)