



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-935-XXX-DIM-UNV-RW-CS-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-L20-935-xxx-DIM-UNV-RW-CS-xx

[LUMINAIRE] 6" DIA. SURFACE CYLINDER

[_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	1334
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	19.8
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	30865	30865	30865
55	24922	24922	24922
65	16122	16122	16122
75	8990	8990	8990
85	4618	4618	4618

CANDELA TABULATION

	<u>0</u>
0.0	1071.838
0.5	1071.838
1.0	1070.829
1.5	1068.813
2.0	1066.796
2.5	1064.780
3.0	1061.755
3.5	1058.730
4.0	1055.705
4.5	1051.672
5.0	1048.647
5.5	1044.613
6.0	1040.580
6.5	1036.547
7.0	1032.514
7.5	1028.480
8.0	1024.447
8.5	1019.405
9.0	1015.372
9.5	1011.339
10.0	1007.507
10.5	1003.373
11.0	999.138
11.5	995.004
12.0	991.072
12.5	987.139
13.0	983.207
13.5	979.174
14.0	975.140
14.5	971.107
15.0	966.973
15.5	962.738
16.0	958.302
16.5	953.865
17.0	949.328
17.5	944.488
18.0	939.345
18.5	933.800
19.0	928.456
19.5	922.708
20.0	916.457
20.5	909.298
21.0	901.029
21.5	892.055
22.0	881.771
22.5	870.377
23.0	857.470
23.5	842.951
24.0	827.019
24.5	808.970
25.0	788.804
25.5	766.520
26.0	742.422
26.5	716.810

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CANDELA TABULATION - (Cont.)

27.0	689.888
27.5	662.563
28.0	633.927
28.5	605.593
29.0	577.361
29.5	549.128
30.0	521.399
30.5	494.175
31.0	468.463
31.5	443.557
32.0	420.064
32.5	398.183
33.0	377.916
33.5	359.666
34.0	343.230
34.5	328.912
35.0	316.308
35.5	305.620
36.0	296.243
36.5	288.378
37.0	281.420
37.5	275.471
38.0	270.026
38.5	265.187
39.0	260.851
39.5	256.918
40.0	253.389
40.5	250.062
41.0	246.835
41.5	243.911
42.0	240.987
42.5	238.265
43.0	235.542
43.5	232.719
44.0	229.896
44.5	227.072
45.0	224.148
45.5	221.123
46.0	217.997
46.5	214.771
47.0	211.443
47.5	208.015
48.0	204.587
48.5	200.957
49.0	197.226
49.5	193.294
50.0	189.361
50.5	185.328
51.0	181.093
51.5	176.959
52.0	172.724
52.5	168.489
53.0	164.456
53.5	160.019
54.0	155.583
54.5	151.146

CANDELA TABULATION - (Cont.)

55.0	146.811
55.5	142.374
56.0	138.038
56.5	133.803
57.0	129.568
57.5	125.333
58.0	121.199
58.5	117.166
59.0	113.133
59.5	109.200
60.0	105.268
60.5	101.436
61.0	97.706
61.5	93.975
62.0	90.446
62.5	86.816
63.0	83.388
63.5	79.858
64.0	76.531
64.5	73.204
65.0	69.977
65.5	66.750
66.0	63.625
66.5	60.600
67.0	57.676
67.5	54.751
68.0	51.928
68.5	49.105
69.0	46.382
69.5	43.761
70.0	41.341
70.5	39.022
71.0	36.904
71.5	34.888
72.0	32.972
72.5	31.157
73.0	29.443
73.5	27.930
74.0	26.418
74.5	25.107
75.0	23.897
75.5	22.788
76.0	21.578
76.5	20.469
77.0	19.360
77.5	18.250
78.0	17.242
78.5	16.133
79.0	15.125
79.5	14.116
80.0	13.108
80.5	12.100
81.0	11.192
81.5	10.285
82.0	9.276
82.5	8.470

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CANDELA TABULATION - (Cont.)

83.0	7.562
83.5	6.655
84.0	5.848
84.5	4.941
85.0	4.134
85.5	3.428
86.0	2.722
86.5	2.218
87.0	1.714
87.5	1.311
88.0	0.907
88.5	0.605
89.0	0.302
89.5	0.101
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
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130.5	0.000
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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
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149.0	0.000
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150.0	0.000
150.5	0.000
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151.5	0.000
152.0	0.000
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156.5	0.000
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158.0	0.000
158.5	0.000
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159.5	0.000
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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	371.00	N.A.	27.80
0-30	717.93	N.A.	53.80
0-40	929.35	N.A.	69.60
0-60	1232.46	N.A.	92.40
0-80	1328.9	N.A.	99.60
0-90	1334.35	N.A.	100.00
10-90	1235.63	N.A.	92.60
20-40	558.35	N.A.	41.80
20-50	730.36	N.A.	54.70
40-70	373.21	N.A.	28.00
60-80	96.44	N.A.	7.20
70-80	26.34	N.A.	2.00
80-90	5.45	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	1334.35	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	98.72
10-20	272.28
20-30	346.93
30-40	211.42
40-50	172.01
50-60	131.09
60-70	70.10
70-80	26.34
80-90	5.45
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

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

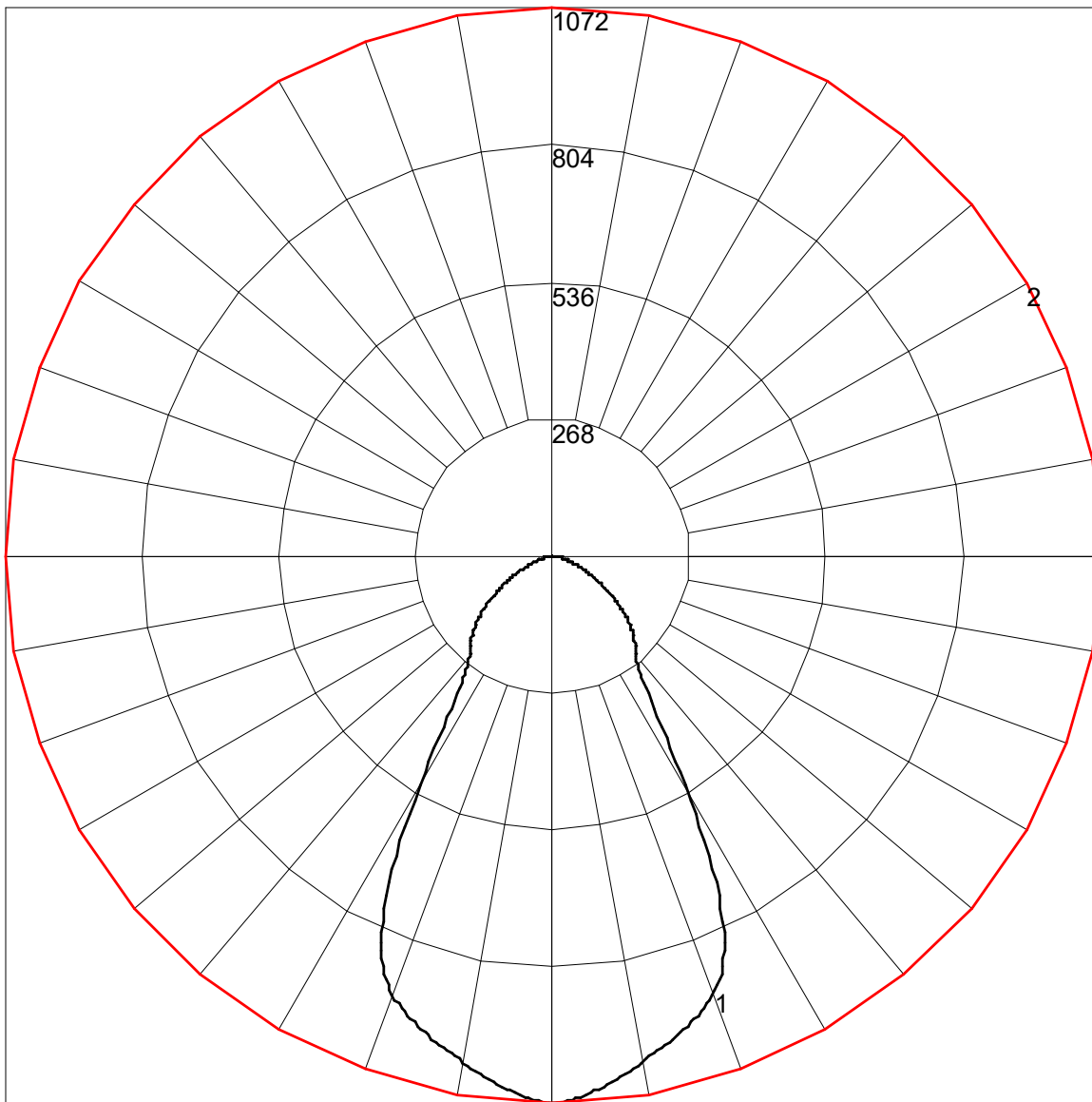
X=2H	Y=2H	20.6	21.9	20.9	22.2	22.5	20.6	21.9	20.9	22.2	22.5
	3H	21.3	22.5	21.7	22.8	23.2	21.3	22.5	21.7	22.8	23.2
	4H	21.5	22.6	21.9	22.9	23.3	21.5	22.6	21.9	22.9	23.3
	6H	21.6	22.6	22.0	23.0	23.4	21.6	22.6	22.0	23.0	23.4
	8H	21.6	22.6	22.0	22.9	23.4	21.6	22.6	22.0	22.9	23.4
	12H	21.6	22.5	22.0	22.9	23.3	21.6	22.5	22.0	22.9	23.3

UGR Viewed Endwise

4H	2H	20.8	21.9	21.2	22.3	22.7	20.8	21.9	21.2	22.3	22.7
	3H	21.7	22.6	22.1	23.0	23.4	21.7	22.6	22.1	23.0	23.4
	4H	21.9	22.8	22.4	23.2	23.6	21.9	22.8	22.4	23.2	23.6
	6H	22.1	22.8	22.6	23.3	23.7	22.1	22.8	22.6	23.3	23.7
	8H	22.2	22.8	22.6	23.3	23.7	22.2	22.8	22.6	23.3	23.7
	12H	22.2	22.7	22.7	23.2	23.7	22.2	22.7	22.7	23.2	23.7
8H	4H	22.0	22.6	22.5	23.1	23.6	22.0	22.6	22.5	23.1	23.6
	6H	22.2	22.8	22.7	23.3	23.7	22.2	22.8	22.7	23.3	23.7
	8H	22.3	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8
	12H	22.3	22.7	22.8	23.2	23.8	22.3	22.7	22.8	23.2	23.8
12H	4H	22.0	22.5	22.5	23.0	23.5	22.0	22.5	22.5	23.0	23.5
	6H	22.2	22.7	22.7	23.2	23.7	22.2	22.7	22.7	23.2	23.7
	8H	22.3	22.7	22.8	23.2	23.8	22.3	22.7	22.8	23.2	23.8

Maximum UGR = 23.8

POLAR GRAPH



Maximum Candela = 1071.838 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.)