



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L12-935-XXX-DIM-UNV-RM-OF-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13257153.07
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-L12-935-xxx-DIM-UNV-RM-OF-CS-xx
 [LUMINAIRE] Aluminum housing, optics, and trim enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Downlight
 [_SEARCH_MOUNTING] Pendant, Surface, Suspended, Wall

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1004
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	14.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.50
Spacing Criterion (90-270)	0.50
Spacing Criterion (Diagonal)	0.48
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 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	46409	46409	46409
55	34006	34006	34006
65	24896	24896	24896
75	12283	12283	12283
85	7295	7295	7295

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CANDELA TABULATION

	<u>0</u>
0.0	2543.653
0.5	2541.709
1.0	2535.876
1.5	2527.452
2.0	2515.138
2.5	2499.585
3.0	2480.143
3.5	2458.757
4.0	2434.130
4.5	2406.263
5.0	2375.156
5.5	2341.457
6.0	2304.517
6.5	2264.985
7.0	2222.213
7.5	2177.497
8.0	2129.540
8.5	2078.343
9.0	2023.257
9.5	1964.932
10.0	1904.013
10.5	1840.503
11.0	1773.753
11.5	1704.410
12.0	1632.474
12.5	1558.595
13.0	1483.420
13.5	1407.596
14.0	1331.773
14.5	1256.597
15.0	1182.070
15.5	1108.838
16.0	1038.199
16.5	970.801
17.0	906.642
17.5	846.372
18.0	790.639
18.5	738.145
19.0	690.189
19.5	646.120
20.0	606.718
20.5	571.398
21.0	539.578
21.5	510.869
22.0	485.271
22.5	461.940
23.0	441.008
23.5	422.084
24.0	405.235
24.5	389.616
25.0	374.581
25.5	360.518
26.0	347.233
26.5	334.336

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CANDELA TABULATION - (Cont.)

27.0	322.088
27.5	310.228
28.0	298.628
28.5	287.222
29.0	275.881
29.5	264.670
30.0	253.782
30.5	243.154
31.0	232.785
31.5	222.999
32.0	213.991
32.5	205.566
33.0	197.789
33.5	190.790
34.0	184.439
34.5	178.542
35.0	173.098
35.5	168.108
36.0	163.507
36.5	159.165
37.0	155.147
37.5	151.258
38.0	147.499
38.5	143.935
39.0	140.371
39.5	136.936
40.0	133.631
40.5	130.326
41.0	127.085
41.5	123.910
42.0	120.799
42.5	117.818
43.0	114.837
43.5	111.986
44.0	109.134
44.5	106.412
45.0	103.690
45.5	101.033
46.0	98.506
46.5	95.914
47.0	93.451
47.5	90.988
48.0	88.590
48.5	86.257
49.0	83.989
49.5	81.786
50.0	79.712
50.5	77.638
51.0	75.629
51.5	73.750
52.0	71.870
52.5	70.056
53.0	68.306
53.5	66.556
54.0	64.871
54.5	63.251

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CANDELA TABULATION - (Cont.)

55.0	61.631
55.5	60.011
56.0	58.520
56.5	56.965
57.0	55.474
57.5	53.984
58.0	52.493
58.5	51.067
59.0	49.577
59.5	48.216
60.0	46.790
60.5	45.365
61.0	44.004
61.5	42.578
62.0	41.217
62.5	39.856
63.0	38.495
63.5	37.199
64.0	35.838
64.5	34.542
65.0	33.246
65.5	31.950
66.0	30.718
66.5	29.422
67.0	28.191
67.5	27.024
68.0	25.793
68.5	24.626
69.0	23.395
69.5	22.229
70.0	21.062
70.5	19.896
71.0	18.794
71.5	17.627
72.0	16.526
72.5	15.424
73.0	14.322
73.5	13.221
74.0	12.119
74.5	11.082
75.0	10.045
75.5	9.073
76.0	8.166
76.5	7.453
77.0	6.805
77.5	6.286
78.0	5.833
78.5	5.509
79.0	5.249
79.5	4.925
80.0	4.666
80.5	4.342
81.0	4.083
81.5	3.824
82.0	3.564
82.5	3.240

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CANDELA TABULATION - (Cont.)

83.0	2.981
83.5	2.787
84.0	2.527
84.5	2.268
85.0	2.009
85.5	1.750
86.0	1.555
86.5	1.296
87.0	1.102
87.5	0.842
88.0	0.648
88.5	0.454
89.0	0.324
89.5	0.194
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-L12-935-XXX-DIM-UNV-RM-OF-CS-XX_.IES****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	533.33	N.A.	53.10
0-30	709.88	N.A.	70.70
0-40	821.55	N.A.	81.80
0-60	957.46	N.A.	95.30
0-80	1002.15	N.A.	99.80
0-90	1004.45	N.A.	100.00
10-90	792.65	N.A.	78.90
20-40	288.22	N.A.	28.70
20-50	368.67	N.A.	36.70
40-70	168.97	N.A.	16.80
60-80	44.69	N.A.	4.40
70-80	11.63	N.A.	1.20
80-90	2.29	N.A.	0.20
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	1004.45	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	211.80
10-20	321.53
20-30	176.55
30-40	111.67
40-50	80.45
50-60	55.47
60-70	33.06
70-80	11.63
80-90	2.29
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	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	107	102	98	95	105	101	97	94	97	94	92	94	92	90	92	90	88	86
3	102	95	90	86	100	94	89	86	91	87	84	89	86	83	87	84	82	80
4	97	89	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75
5	93	84	78	74	91	83	78	74	82	77	73	80	76	73	78	75	72	70
6	88	80	74	70	87	79	73	69	77	73	69	76	72	68	75	71	68	67
7	85	76	70	66	83	75	69	66	74	69	65	73	68	65	71	68	65	63
8	81	72	66	62	80	71	66	62	70	65	62	69	65	62	68	64	61	60
9	78	69	63	59	77	68	63	59	67	63	59	67	62	59	66	62	59	57
10	75	66	60	57	74	65	60	57	65	60	57	64	60	56	63	59	56	55

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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

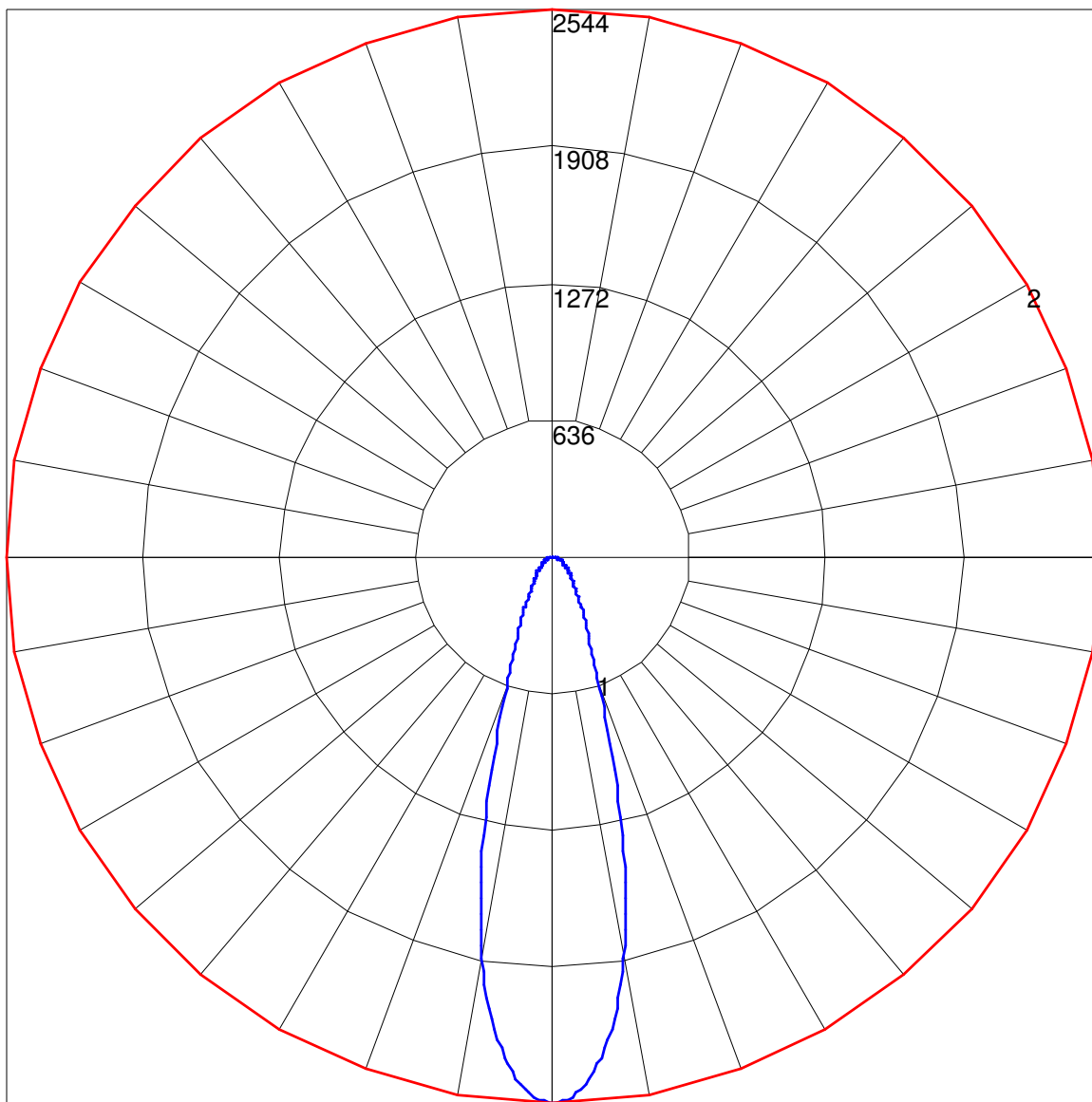
X=2H	Y=2H	20.1	21.2	20.4	21.5	21.9	20.1	21.2	20.4	21.5	21.9
	3H	21.1	22.1	21.5	22.4	22.8	21.1	22.1	21.5	22.4	22.8
	4H	21.3	22.2	21.7	22.5	22.9	21.3	22.2	21.7	22.5	22.9
	6H	21.3	22.1	21.7	22.5	22.9	21.3	22.1	21.7	22.5	22.9
	8H	21.3	22.1	21.7	22.5	22.9	21.3	22.1	21.7	22.5	22.9
	12H	21.2	22.0	21.7	22.4	22.8	21.2	22.0	21.7	22.4	22.8

UGR Viewed Endwise

4H	2H	20.4	21.3	20.8	21.7	22.1	20.4	21.3	20.8	21.7	22.1
	3H	21.6	22.3	22.0	22.7	23.1	21.6	22.3	22.0	22.7	23.1
	4H	21.8	22.4	22.2	22.9	23.3	21.8	22.4	22.2	22.9	23.3
	6H	21.8	22.4	22.3	22.8	23.3	21.8	22.4	22.3	22.8	23.3
	8H	21.8	22.4	22.3	22.8	23.3	21.8	22.4	22.3	22.8	23.3
	12H	21.8	22.3	22.3	22.8	23.2	21.8	22.3	22.3	22.8	23.2
8H	4H	21.7	22.3	22.2	22.7	23.2	21.7	22.3	22.2	22.7	23.2
	6H	21.8	22.3	22.3	22.8	23.3	21.8	22.3	22.3	22.8	23.3
	8H	21.9	22.2	22.4	22.8	23.3	21.9	22.2	22.4	22.8	23.3
	12H	21.9	22.2	22.4	22.7	23.3	21.9	22.2	22.4	22.7	23.3
12H	4H	21.7	22.2	22.2	22.7	23.1	21.7	22.2	22.2	22.7	23.1
	6H	21.8	22.2	22.3	22.7	23.2	21.8	22.2	22.3	22.7	23.2
	8H	21.9	22.2	22.4	22.7	23.3	21.9	22.2	22.4	22.7	23.3

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 2543.653 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)