



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L12-840-(L8)-XXX-DIM-UNV-OW-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13131414.01
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 10-11-2024
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-xx-L12-840-(L8)-xxx-DIM-UNV-OW-WH-xx
 [LUMINAIRE] Aluminum housing and reflector, no 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	721
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
Total Luminaire Watts	9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.04
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	19562	19562	19562
55	5568	5568	5568
65	2526	2526	2526
75	783	783	783
85	211	211	211

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-840-(L8)-XXX-DIM-UNV-OW-WH-XX_.IES****CANDELA TABULATION**

	<u>0</u>
0.0	584.804
0.5	584.804
1.0	584.804
1.5	585.095
2.0	585.386
2.5	585.677
3.0	585.967
3.5	586.840
4.0	588.003
4.5	589.457
5.0	591.202
5.5	593.237
6.0	594.982
6.5	597.309
7.0	599.635
7.5	601.962
8.0	604.579
8.5	606.614
9.0	608.359
9.5	609.522
10.0	610.686
10.5	611.558
11.0	612.140
11.5	612.430
12.0	612.140
12.5	611.849
13.0	610.976
13.5	610.104
14.0	608.941
14.5	608.068
15.0	606.905
15.5	605.742
16.0	604.288
16.5	603.416
17.0	602.252
17.5	601.380
18.0	600.798
18.5	599.926
19.0	598.472
19.5	595.855
20.0	593.237
20.5	589.748
21.0	585.677
21.5	581.315
22.0	576.953
22.5	571.718
23.0	566.193
23.5	560.086
24.0	553.979
24.5	547.581
25.0	540.602
25.5	533.041
26.0	524.899
26.5	515.884

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-840-(L8)-XXX-DIM-UNV-OW-WH-XX_.IES****CANDELA TABULATION - (Cont.)**

27.0	506.287
27.5	495.237
28.0	484.768
28.5	473.718
29.0	462.958
29.5	452.198
30.0	440.857
30.5	429.225
31.0	417.302
31.5	405.088
32.0	393.456
32.5	381.242
33.0	368.738
33.5	356.233
34.0	343.147
34.5	330.061
35.0	316.684
35.5	302.726
36.0	288.273
36.5	273.122
37.0	256.924
37.5	239.738
38.0	221.970
38.5	203.853
39.0	185.823
39.5	168.346
40.0	151.712
40.5	136.067
41.0	121.468
41.5	107.830
42.0	95.092
42.5	83.402
43.0	72.846
43.5	63.540
44.0	55.689
44.5	49.146
45.0	43.708
45.5	39.200
46.0	35.449
46.5	32.250
47.0	29.546
47.5	27.219
48.0	25.184
48.5	23.381
49.0	21.781
49.5	20.356
50.0	19.018
50.5	17.826
51.0	16.721
51.5	15.703
52.0	14.773
52.5	13.871
53.0	13.028
53.5	12.214
54.0	11.458
54.5	10.731

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55.0	10.091
55.5	9.509
56.0	8.986
56.5	8.491
57.0	8.055
57.5	7.648
58.0	7.270
58.5	6.921
59.0	6.601
59.5	6.252
60.0	5.961
60.5	5.642
61.0	5.380
61.5	5.089
62.0	4.827
62.5	4.566
63.0	4.333
63.5	4.071
64.0	3.839
64.5	3.606
65.0	3.373
65.5	3.170
66.0	2.966
66.5	2.734
67.0	2.559
67.5	2.356
68.0	2.181
68.5	2.036
69.0	1.861
69.5	1.716
70.0	1.570
70.5	1.454
71.0	1.338
71.5	1.221
72.0	1.105
72.5	1.018
73.0	0.931
73.5	0.843
74.0	0.785
74.5	0.698
75.0	0.640
75.5	0.582
76.0	0.523
76.5	0.494
77.0	0.436
77.5	0.378
78.0	0.349
78.5	0.320
79.0	0.291
79.5	0.262
80.0	0.233
80.5	0.204
81.0	0.174
81.5	0.174
82.0	0.145
82.5	0.116

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83.0	0.116
83.5	0.087
84.0	0.087
84.5	0.087
85.0	0.058
85.5	0.058
86.0	0.058
86.5	0.029
87.0	0.029
87.5	0.029
88.0	0.029
88.5	0.029
89.0	0.029
89.5	0.029
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-840-(L8)-XXX-DIM-UNV-OW-WH-XX_.IES****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-XX-L12-840-(L8)-XXX-DIM-UNV-OW-WH-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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-840-(L8)-XXX-DIM-UNV-OW-WH-XX_.IES****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	228.66	N.A.	31.70
0-30	472.71	N.A.	65.60
0-40	663.03	N.A.	92.00
0-60	716.58	N.A.	99.40
0-80	720.79	N.A.	100.00
0-90	720.89	N.A.	100.00
10-90	663.71	N.A.	92.10
20-40	434.37	N.A.	60.30
20-50	478.22	N.A.	66.30
40-70	57.00	N.A.	7.90
60-80	4.21	N.A.	0.60
70-80	0.77	N.A.	0.10
80-90	0.09	N.A.	0.00
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	720.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	57.18
10-20	171.49
20-30	244.05
30-40	190.32
40-50	43.86
50-60	9.69
60-70	3.45
70-80	0.77
80-90	0.09
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	106	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	91	94	92	90	92	90	88	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	79
4	96	88	83	78	94	87	82	78	85	80	77	83	79	76	81	78	75	73
5	91	82	76	72	89	81	76	71	79	74	71	78	73	70	76	72	69	68
6	86	77	70	66	85	76	70	66	74	69	65	73	68	65	72	68	64	63
7	81	72	65	61	80	71	65	61	70	64	61	69	64	60	67	63	60	58
8	77	67	61	57	76	67	61	57	66	60	56	64	60	56	63	59	56	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	70	59	53	49	68	59	53	49	58	53	49	57	52	49	57	52	49	47

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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

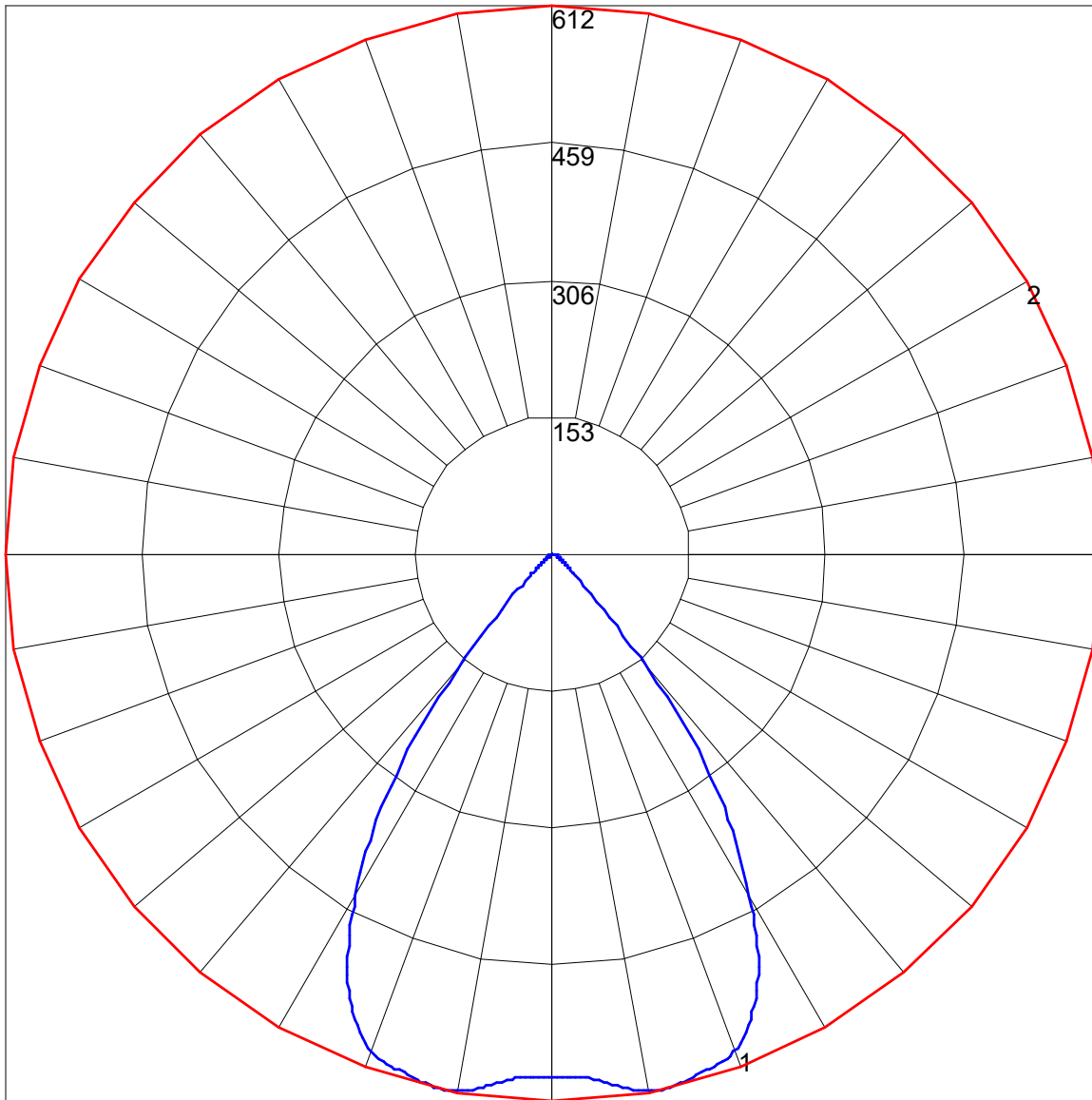
X=2H	Y=2H	7.7	8.8	8.1	9.1	9.4	7.7	8.8	8.1	9.1	9.4
	3H	8.0	8.9	8.4	9.2	9.6	8.0	8.9	8.4	9.2	9.6
	4H	8.0	8.8	8.4	9.1	9.5	8.0	8.8	8.4	9.1	9.5
	6H	7.9	8.6	8.3	9.0	9.4	7.9	8.6	8.3	9.0	9.4
	8H	7.9	8.5	8.3	8.9	9.3	7.9	8.5	8.3	8.9	9.3
	12H	7.8	8.5	8.2	8.8	9.3	7.8	8.5	8.2	8.8	9.3

UGR Viewed Endwise

4H	2H	7.8	8.6	8.2	9.0	9.3	7.8	8.6	8.2	9.0	9.3
	3H	8.1	8.8	8.5	9.2	9.6	8.1	8.8	8.5	9.2	9.6
	4H	8.1	8.7	8.5	9.1	9.5	8.1	8.7	8.5	9.1	9.5
	6H	8.0	8.5	8.5	9.0	9.4	8.0	8.5	8.5	9.0	9.4
	8H	7.9	8.4	8.4	8.8	9.3	7.9	8.4	8.4	8.8	9.3
	12H	7.9	8.3	8.4	8.8	9.2	7.9	8.3	8.4	8.8	9.2
8H	4H	7.9	8.4	8.4	8.9	9.3	7.9	8.4	8.4	8.9	9.3
	6H	7.8	8.2	8.4	8.7	9.2	7.8	8.2	8.4	8.7	9.2
	8H	7.8	8.1	8.3	8.6	9.1	7.8	8.1	8.3	8.6	9.1
	12H	7.8	8.0	8.3	8.5	9.1	7.8	8.0	8.3	8.5	9.1
12H	4H	7.9	8.3	8.4	8.8	9.2	7.9	8.3	8.4	8.8	9.2
	6H	7.8	8.1	8.3	8.6	9.1	7.8	8.1	8.3	8.6	9.1
	8H	7.8	8.0	8.3	8.5	9.1	7.8	8.0	8.3	8.5	9.1

Maximum UGR = 9.6

POLAR GRAPH



Maximum Candela = 612.43 Located At Horizontal Angle = 0, Vertical Angle = 11.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (11.5) (Through Max. Cd.)