



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN FROM 13131414.01
[TESTLAB] UL Verification Services Inc.
[ISSUEDATE] 05-01-2024
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
[LUMCAT] 4CR-L15-840-xxx-DIM-UNV-OW-CS-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	1591
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	17.7
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	43166	43166	43166
55	12286	12286	12286
65	5574	5574	5574
75	1727	1727	1727
85	465	465	465

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

CANDELA TABULATION

	<u>0</u>
0.0	1290.439
0.5	1290.439
1.0	1290.439
1.5	1291.081
2.0	1291.722
2.5	1292.364
3.0	1293.006
3.5	1294.931
4.0	1297.498
4.5	1300.706
5.0	1304.556
5.5	1309.048
6.0	1312.898
6.5	1318.032
7.0	1323.165
7.5	1328.299
8.0	1334.074
8.5	1338.566
9.0	1342.416
9.5	1344.983
10.0	1347.549
10.5	1349.474
11.0	1350.758
11.5	1351.400
12.0	1350.758
12.5	1350.116
13.0	1348.191
13.5	1346.266
14.0	1343.699
14.5	1341.774
15.0	1339.207
15.5	1336.641
16.0	1333.432
16.5	1331.507
17.0	1328.940
17.5	1327.015
18.0	1325.732
18.5	1323.807
19.0	1320.598
19.5	1314.823
20.0	1309.048
20.5	1301.348
21.0	1292.364
21.5	1282.739
22.0	1273.113
22.5	1261.563
23.0	1249.371
23.5	1235.895
24.0	1222.420
24.5	1208.303
25.0	1192.902
25.5	1176.218
26.0	1158.251
26.5	1138.358

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

CANDELA TABULATION - (Cont.)

27.0	1117.183
27.5	1092.798
28.0	1069.698
28.5	1045.313
29.0	1021.571
29.5	997.828
30.0	972.802
30.5	947.135
31.0	920.825
31.5	893.874
32.0	868.207
32.5	841.256
33.0	813.663
33.5	786.070
34.0	757.194
34.5	728.318
35.0	698.801
35.5	667.999
36.0	636.107
36.5	602.675
37.0	566.933
37.5	529.009
38.0	489.802
38.5	449.825
39.0	410.040
39.5	371.474
40.0	334.770
40.5	300.247
41.0	268.034
41.5	237.939
42.0	209.833
42.5	184.037
43.0	160.743
43.5	140.209
44.0	122.884
44.5	108.446
45.0	96.446
45.5	86.500
46.0	78.222
46.5	71.163
47.0	65.196
47.5	60.062
48.0	55.570
48.5	51.592
49.0	48.063
49.5	44.918
50.0	41.967
50.5	39.336
51.0	36.897
51.5	34.651
52.0	32.598
52.5	30.609
53.0	28.748
53.5	26.951
54.0	25.283
54.5	23.678

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

CANDELA TABULATION - (Cont.)

55.0	22.267
55.5	20.983
56.0	19.828
56.5	18.737
57.0	17.775
57.5	16.876
58.0	16.042
58.5	15.272
59.0	14.566
59.5	13.796
60.0	13.155
60.5	12.449
61.0	11.871
61.5	11.230
62.0	10.652
62.5	10.075
63.0	9.561
63.5	8.984
64.0	8.470
64.5	7.957
65.0	7.444
65.5	6.994
66.0	6.545
66.5	6.032
67.0	5.647
67.5	5.198
68.0	4.813
68.5	4.492
69.0	4.107
69.5	3.786
70.0	3.465
70.5	3.208
71.0	2.952
71.5	2.695
72.0	2.438
72.5	2.246
73.0	2.053
73.5	1.861
74.0	1.733
74.5	1.540
75.0	1.412
75.5	1.283
76.0	1.155
76.5	1.091
77.0	0.963
77.5	0.834
78.0	0.770
78.5	0.706
79.0	0.642
79.5	0.578
80.0	0.513
80.5	0.449
81.0	0.385
81.5	0.385
82.0	0.321
82.5	0.257

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

CANDELA TABULATION - (Cont.)

83.0	0.257
83.5	0.193
84.0	0.193
84.5	0.193
85.0	0.128
85.5	0.128
86.0	0.128
86.5	0.064
87.0	0.064
87.5	0.064
88.0	0.064
88.5	0.064
89.0	0.064
89.5	0.064
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-L15-840-XXX-DIM-UNV-OW-CS-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-L15-840-XXX-DIM-UNV-OW-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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	504.57	N.A.	31.70
0-30	1043.09	N.A.	65.60
0-40	1463.06	N.A.	92.00
0-60	1581.22	N.A.	99.40
0-80	1590.51	N.A.	100.00
0-90	1590.72	N.A.	100.00
10-90	1464.55	N.A.	92.10
20-40	958.48	N.A.	60.30
20-50	1055.26	N.A.	66.30
40-70	125.77	N.A.	7.90
60-80	9.30	N.A.	0.60
70-80	1.69	N.A.	0.10
80-90	0.20	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	1590.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	126.16
10-20	378.41
20-30	538.51
30-40	419.97
40-50	96.78
50-60	21.39
60-70	7.61
70-80	1.69
80-90	0.20
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

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

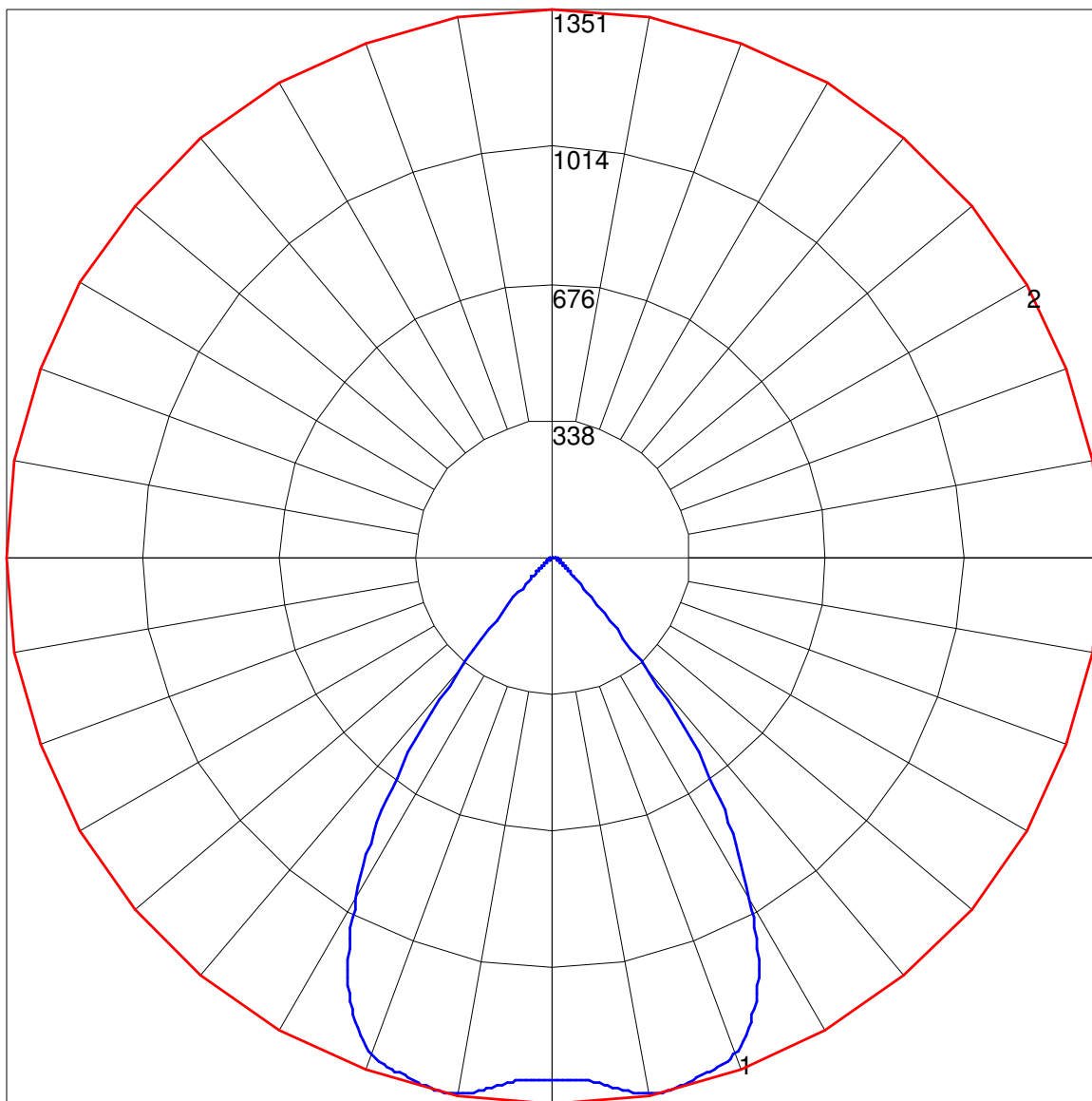
IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-L15-840-XXX-DIM-UNV-OW-CS-XX_.IES

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	10.4	11.4	10.8	11.8	12.1	10.4	11.4	10.8	11.8	12.1
	3H	10.7	11.6	11.1	11.9	12.3	10.7	11.6	11.1	11.9	12.3
	4H	10.7	11.5	11.1	11.8	12.2	10.7	11.5	11.1	11.8	12.2
	6H	10.6	11.3	11.0	11.7	12.1	10.6	11.3	11.0	11.7	12.1
	8H	10.6	11.2	11.0	11.6	12.0	10.6	11.2	11.0	11.6	12.0
	12H	10.5	11.2	10.9	11.5	12.0	10.5	11.2	10.9	11.5	12.0
4H	2H	10.5	11.3	10.9	11.7	12.0	10.5	11.3	10.9	11.7	12.0
	3H	10.8	11.5	11.2	11.9	12.3	10.8	11.5	11.2	11.9	12.3
	4H	10.8	11.4	11.2	11.8	12.2	10.8	11.4	11.2	11.8	12.2
	6H	10.7	11.2	11.2	11.6	12.1	10.7	11.2	11.2	11.6	12.1
	8H	10.6	11.1	11.1	11.5	12.0	10.6	11.1	11.1	11.5	12.0
	12H	10.6	11.0	11.1	11.5	11.9	10.6	11.0	11.1	11.5	11.9
8H	4H	10.6	11.1	11.1	11.6	12.0	10.6	11.1	11.1	11.6	12.0
	6H	10.5	10.9	11.1	11.4	11.9	10.5	10.9	11.1	11.4	11.9
	8H	10.5	10.8	11.0	11.3	11.8	10.5	10.8	11.0	11.3	11.8
	12H	10.4	10.7	10.9	11.2	11.8	10.4	10.7	10.9	11.2	11.8
12H	4H	10.6	11.0	11.1	11.5	11.9	10.6	11.0	11.1	11.5	11.9
	6H	10.5	10.8	11.0	11.3	11.8	10.5	10.8	11.0	11.3	11.8
	8H	10.4	10.7	10.9	11.2	11.8	10.4	10.7	10.9	11.2	11.8

Maximum UGR = 12.3

POLAR GRAPH



Maximum Candela = 1351.4 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.)