



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L7-840-XXX-DIM-UNV-RW-CS-AD-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13257153.04
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-xx-L7-840-xxx-DIM-UNV-RW-CS-AD-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	632
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	73
Total Luminaire Watts	8.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.82
Spacing Criterion (90-270)	0.82
Spacing Criterion (Diagonal)	0.90
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	50520	50520	50520
55	43959	43959	43959
65	36159	36159	36159
75	16822	16822	16822
85	10091	10091	10091

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CANDELA TABULATION

	<u>0</u>
0.0	511.543
0.5	511.543
1.0	511.088
1.5	510.632
2.0	509.721
2.5	508.355
3.0	506.988
3.5	505.166
4.0	503.344
4.5	501.066
5.0	498.333
5.5	496.056
6.0	492.867
6.5	490.134
7.0	486.946
7.5	483.301
8.0	480.113
8.5	476.013
9.0	472.369
9.5	468.269
10.0	464.170
10.5	459.615
11.0	455.014
11.5	450.368
12.0	445.448
12.5	440.346
13.0	435.153
13.5	429.915
14.0	424.358
14.5	418.709
15.0	412.924
15.5	407.003
16.0	400.990
16.5	394.886
17.0	388.736
17.5	382.541
18.0	376.301
18.5	369.924
19.0	363.455
19.5	357.033
20.0	351.430
20.5	345.098
21.0	338.903
21.5	332.845
22.0	326.604
22.5	320.181
23.0	313.804
23.5	307.518
24.0	301.323
24.5	295.174
25.0	289.115
25.5	283.057
26.0	277.044
26.5	271.077

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L7-840-XXX-DIM-UNV-RW-CS-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

27.0	265.246
27.5	259.461
28.0	253.676
28.5	247.937
29.0	242.152
29.5	236.412
30.0	230.673
30.5	224.979
31.0	219.285
31.5	213.637
32.0	208.034
32.5	202.568
33.0	197.238
33.5	192.091
34.0	187.126
34.5	182.252
35.0	177.514
35.5	172.959
36.0	168.541
36.5	164.259
37.0	160.159
37.5	156.242
38.0	152.415
38.5	148.726
39.0	145.173
39.5	141.756
40.0	138.477
40.5	135.379
41.0	132.373
41.5	129.503
42.0	126.815
42.5	124.219
43.0	121.714
43.5	119.390
44.0	117.113
44.5	114.972
45.0	112.877
45.5	110.872
46.0	108.914
46.5	107.046
47.0	105.178
47.5	103.402
48.0	101.625
48.5	99.849
49.0	98.163
49.5	96.524
50.0	94.929
50.5	93.335
51.0	91.741
51.5	90.238
52.0	88.689
52.5	87.186
53.0	85.682
53.5	84.179
54.0	82.676
54.5	81.173

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L7-840-XXX-DIM-UNV-RW-CS-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

55.0	79.670
55.5	78.166
56.0	76.663
56.5	75.160
57.0	73.611
57.5	72.062
58.0	70.514
58.5	69.011
59.0	67.462
59.5	65.913
60.0	64.319
60.5	62.770
61.0	61.221
61.5	59.627
62.0	58.078
62.5	56.484
63.0	54.890
63.5	53.250
64.0	51.610
64.5	49.970
65.0	48.285
65.5	46.554
66.0	44.868
66.5	43.137
67.0	41.406
67.5	39.630
68.0	37.853
68.5	36.077
69.0	34.300
69.5	32.478
70.0	30.656
70.5	28.834
71.0	27.012
71.5	25.190
72.0	23.413
72.5	21.637
73.0	19.906
73.5	18.266
74.0	16.672
74.5	15.169
75.0	13.757
75.5	12.481
76.0	11.388
76.5	10.477
77.0	9.657
77.5	8.974
78.0	8.427
78.5	7.972
79.0	7.516
79.5	7.060
80.0	6.651
80.5	6.195
81.0	5.785
81.5	5.375
82.0	4.965
82.5	4.601

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L7-840-XXX-DIM-UNV-RW-CS-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

83.0	4.236
83.5	3.826
84.0	3.462
84.5	3.143
85.0	2.779
85.5	2.460
86.0	2.141
86.5	1.822
87.0	1.503
87.5	1.184
88.0	0.911
88.5	0.638
89.0	0.456
89.5	0.319
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-L7-840-XXX-DIM-UNV-RW-CS-AD-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-L7-840-XXX-DIM-UNV-RW-CS-AD-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	161.23	N.A.	25.50
0-30	293.67	N.A.	46.50
0-40	405.52	N.A.	64.20
0-60	564.60	N.A.	89.40
0-80	628.44	N.A.	99.50
0-90	631.66	N.A.	100.00
10-90	585.18	N.A.	92.60
20-40	244.29	N.A.	38.70
20-50	332.20	N.A.	52.60
40-70	206.50	N.A.	32.70
60-80	63.84	N.A.	10.10
70-80	16.42	N.A.	2.60
80-90	3.22	N.A.	0.50
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	631.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	46.48
10-20	114.75
20-30	132.43
30-40	111.85
40-50	87.91
50-60	71.17
60-70	47.42
70-80	16.42
80-90	3.22
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	86	101	95	90	85	91	87	84	88	85	82	85	82	80	78
3	96	87	81	75	94	86	80	75	83	78	73	80	76	72	78	74	71	69
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	62
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55
6	78	67	59	54	76	66	59	53	64	58	53	62	57	52	61	56	52	50
7	73	62	54	49	72	61	54	49	59	53	48	58	52	48	57	52	48	46
8	69	57	50	45	67	57	49	45	55	49	44	54	48	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

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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

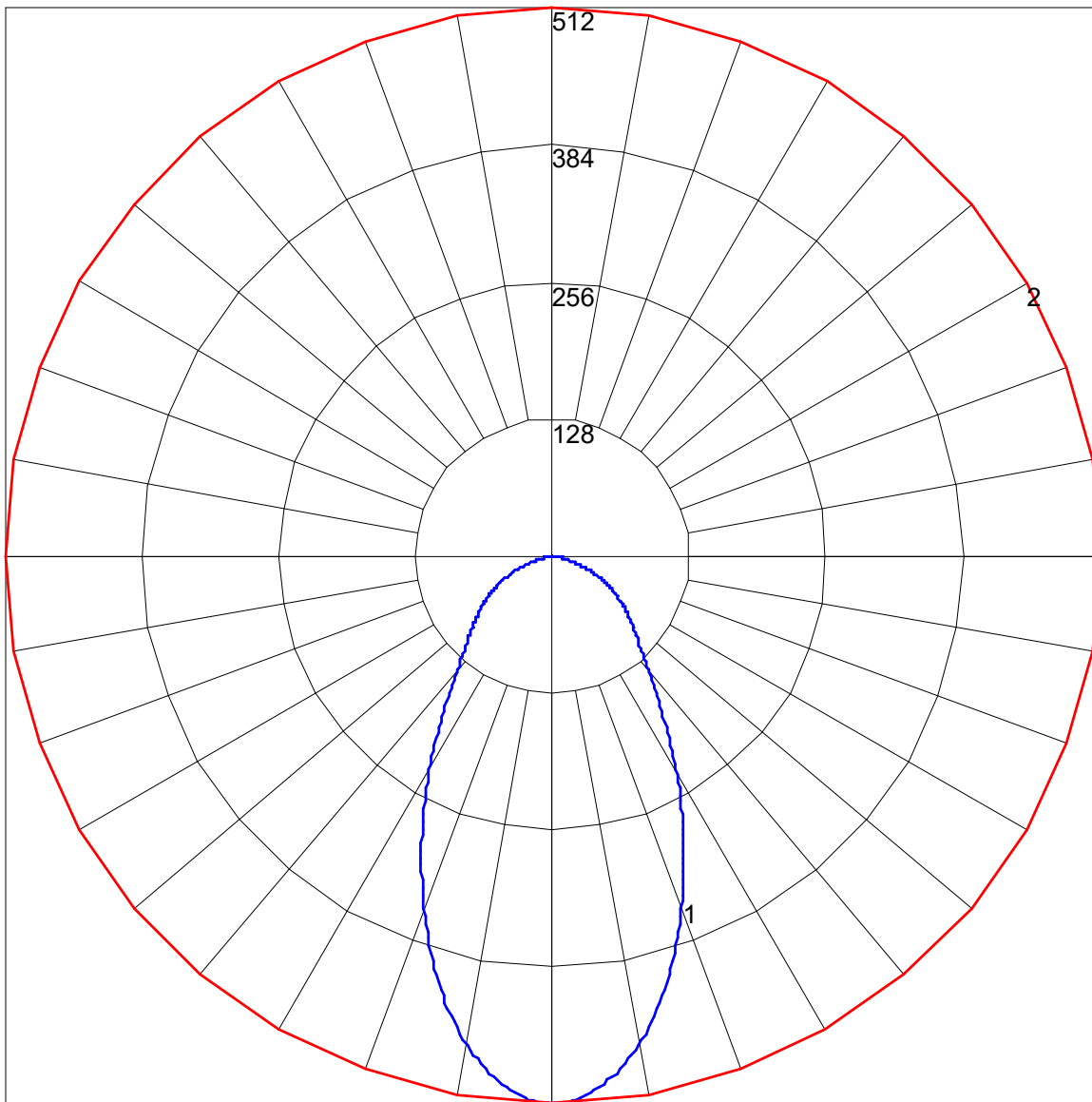
X=2H	Y=2H	23.4	24.8	23.8	25.1	25.4	23.4	24.8	23.8	25.1	25.4
	3H	24.6	25.8	25.0	26.2	26.5	24.6	25.8	25.0	26.2	26.5
	4H	24.8	25.9	25.2	26.3	26.7	24.8	25.9	25.2	26.3	26.7
	6H	24.8	25.9	25.2	26.3	26.7	24.8	25.9	25.2	26.3	26.7
	8H	24.9	25.8	25.3	26.2	26.6	24.9	25.8	25.3	26.2	26.6
	12H	24.8	25.8	25.3	26.2	26.6	24.8	25.8	25.3	26.2	26.6

UGR Viewed Endwise

4H	2H	23.9	25.0	24.3	25.4	25.7	23.9	25.0	24.3	25.4	25.7
	3H	25.2	26.2	25.6	26.6	27.0	25.2	26.2	25.6	26.6	27.0
	4H	25.4	26.3	25.9	26.7	27.1	25.4	26.3	25.9	26.7	27.1
	6H	25.5	26.2	26.0	26.7	27.2	25.5	26.2	26.0	26.7	27.2
	8H	25.5	26.2	26.0	26.6	27.1	25.5	26.2	26.0	26.6	27.1
	12H	25.5	26.1	26.0	26.6	27.1	25.5	26.1	26.0	26.6	27.1
8H	4H	25.4	26.1	25.9	26.6	27.0	25.4	26.1	25.9	26.6	27.0
	6H	25.6	26.1	26.1	26.6	27.1	25.6	26.1	26.1	26.6	27.1
	8H	25.6	26.1	26.1	26.6	27.1	25.6	26.1	26.1	26.6	27.1
	12H	25.7	26.1	26.2	26.6	27.1	25.7	26.1	26.2	26.6	27.1
12H	4H	25.4	26.0	25.9	26.5	27.0	25.4	26.0	25.9	26.5	27.0
	6H	25.6	26.0	26.1	26.5	27.1	25.6	26.0	26.1	26.5	27.1
	8H	25.6	26.0	26.1	26.5	27.1	25.6	26.0	26.1	26.5	27.1

Maximum UGR = 27.2

POLAR GRAPH



Maximum Candela = 511.543 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.)