



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13131414.01
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-xx-L15-835-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	1571
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
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	42631	42631	42631
55	12133	12133	12133
65	5505	5505	5505
75	1705	1705	1705
85	461	461	461

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CANDELA TABULATION

	<u>0</u>
0.0	1274.418
0.5	1274.418
1.0	1274.418
1.5	1275.051
2.0	1275.685
2.5	1276.319
3.0	1276.952
3.5	1278.854
4.0	1281.389
4.5	1284.557
5.0	1288.360
5.5	1292.796
6.0	1296.598
6.5	1301.668
7.0	1306.737
7.5	1311.807
8.0	1317.511
8.5	1321.947
9.0	1325.749
9.5	1328.284
10.0	1330.819
10.5	1332.720
11.0	1333.988
11.5	1334.621
12.0	1333.988
12.5	1333.354
13.0	1331.453
13.5	1329.552
14.0	1327.017
14.5	1325.115
15.0	1322.581
15.5	1320.046
16.0	1316.877
16.5	1314.976
17.0	1312.441
17.5	1310.540
18.0	1309.272
18.5	1307.371
19.0	1304.203
19.5	1298.499
20.0	1292.796
20.5	1285.191
21.0	1276.319
21.5	1266.813
22.0	1257.307
22.5	1245.900
23.0	1233.859
23.5	1220.551
24.0	1207.243
24.5	1193.301
25.0	1178.092
25.5	1161.615
26.0	1143.871
26.5	1124.225

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CANDELA TABULATION - (Cont.)

27.0	1103.312
27.5	1079.231
28.0	1056.417
28.5	1032.335
29.0	1008.888
29.5	985.440
30.0	960.725
30.5	935.376
31.0	909.393
31.5	882.777
32.0	857.428
32.5	830.811
33.0	803.561
33.5	776.311
34.0	747.794
34.5	719.276
35.0	690.125
35.5	659.706
36.0	628.210
36.5	595.193
37.0	559.895
37.5	522.442
38.0	483.721
38.5	444.240
39.0	404.949
39.5	366.862
40.0	330.613
40.5	296.519
41.0	264.706
41.5	234.985
42.0	207.228
42.5	181.752
43.0	158.748
43.5	138.469
44.0	121.358
44.5	107.099
45.0	95.249
45.5	85.426
46.0	77.251
46.5	70.280
47.0	64.386
47.5	59.317
48.0	54.880
48.5	50.951
49.0	47.466
49.5	44.361
50.0	41.446
50.5	38.847
51.0	36.439
51.5	34.221
52.0	32.193
52.5	30.229
53.0	28.391
53.5	26.616
54.0	24.969
54.5	23.384

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CANDELA TABULATION - (Cont.)

55.0	21.990
55.5	20.723
56.0	19.582
56.5	18.505
57.0	17.554
57.5	16.667
58.0	15.843
58.5	15.083
59.0	14.386
59.5	13.625
60.0	12.991
60.5	12.294
61.0	11.724
61.5	11.090
62.0	10.520
62.5	9.949
63.0	9.442
63.5	8.872
64.0	8.365
64.5	7.858
65.0	7.351
65.5	6.908
66.0	6.464
66.5	5.957
67.0	5.577
67.5	5.133
68.0	4.753
68.5	4.436
69.0	4.056
69.5	3.739
70.0	3.422
70.5	3.169
71.0	2.915
71.5	2.662
72.0	2.408
72.5	2.218
73.0	2.028
73.5	1.838
74.0	1.711
74.5	1.521
75.0	1.394
75.5	1.267
76.0	1.141
76.5	1.077
77.0	0.951
77.5	0.824
78.0	0.760
78.5	0.697
79.0	0.634
79.5	0.570
80.0	0.507
80.5	0.444
81.0	0.380
81.5	0.380
82.0	0.317
82.5	0.253

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CANDELA TABULATION - (Cont.)

83.0	0.253
83.5	0.190
84.0	0.190
84.5	0.190
85.0	0.127
85.5	0.127
86.0	0.127
86.5	0.063
87.0	0.063
87.5	0.063
88.0	0.063
88.5	0.063
89.0	0.063
89.5	0.063
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-XX-L15-835-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

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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	498.31	N.A.	31.70
0-30	1030.14	N.A.	65.60
0-40	1444.89	N.A.	92.00
0-60	1561.59	N.A.	99.40
0-80	1570.77	N.A.	100.00
0-90	1570.97	N.A.	100.00
10-90	1446.37	N.A.	92.10
20-40	946.58	N.A.	60.30
20-50	1042.16	N.A.	66.30
40-70	124.21	N.A.	7.90
60-80	9.18	N.A.	0.60
70-80	1.67	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	1570.97	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	124.60
10-20	373.71
20-30	531.83
30-40	414.75
40-50	95.58
50-60	21.12
60-70	7.51
70-80	1.67
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

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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	92	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	71	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

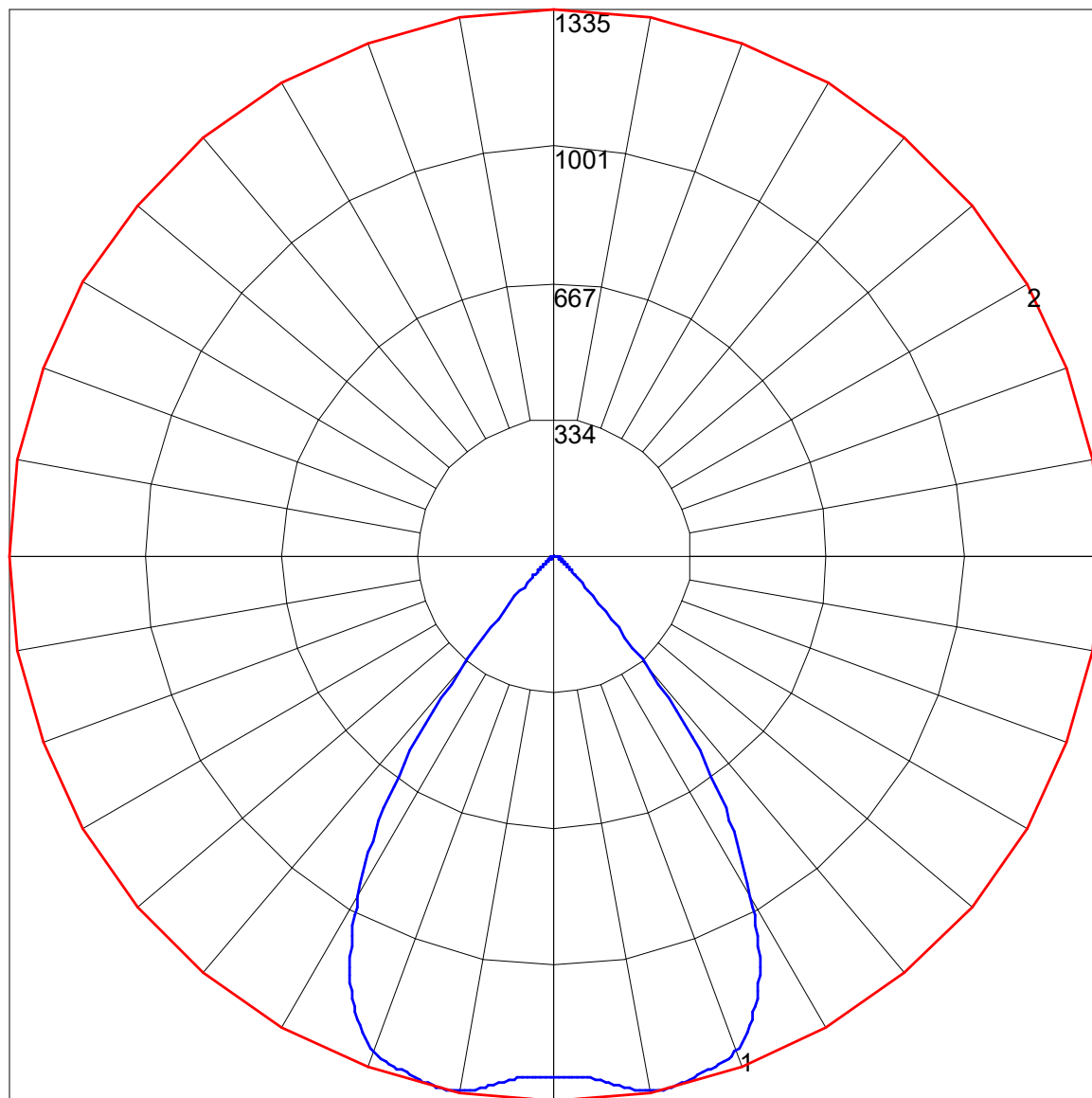
X=2H	Y=2H	10.4	11.4	10.8	11.8	12.1	10.4	11.4	10.8	11.8	12.1
	3H	10.7	11.6	11.1	11.9	12.3	10.7	11.6	11.1	11.9	12.3
	4H	10.7	11.5	11.1	11.8	12.2	10.7	11.5	11.1	11.8	12.2
	6H	10.6	11.3	11.0	11.7	12.1	10.6	11.3	11.0	11.7	12.1
	8H	10.6	11.2	11.0	11.6	12.0	10.6	11.2	11.0	11.6	12.0
	12H	10.5	11.2	10.9	11.5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

UGR Viewed Endwise

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	11.7	12.1	10.7	11.2	11.2	11.7	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 = 1334.621 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.)