



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L5-835-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] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-xx-L5-835-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	516
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	6.7
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	14002	14002	14002
55	3985	3985	3985
65	1808	1808	1808
75	560	560	560
85	153	153	153

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CANDELA TABULATION

	<u>0</u>
0.0	418.586
0.5	418.586
1.0	418.586
1.5	418.795
2.0	419.003
2.5	419.211
3.0	419.419
3.5	420.043
4.0	420.876
4.5	421.917
5.0	423.166
5.5	424.623
6.0	425.872
6.5	427.537
7.0	429.202
7.5	430.867
8.0	432.741
8.5	434.198
9.0	435.446
9.5	436.279
10.0	437.112
10.5	437.736
11.0	438.152
11.5	438.361
12.0	438.152
12.5	437.944
13.0	437.320
13.5	436.695
14.0	435.863
14.5	435.238
15.0	434.406
15.5	433.573
16.0	432.532
16.5	431.908
17.0	431.075
17.5	430.451
18.0	430.035
18.5	429.410
19.0	428.369
19.5	426.496
20.0	424.623
20.5	422.125
21.0	419.211
21.5	416.089
22.0	412.966
22.5	409.220
23.0	405.265
23.5	400.894
24.0	396.523
24.5	391.943
25.0	386.948
25.5	381.536
26.0	375.708
26.5	369.255

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L5-835-XXX-DIM-UNV-OW-CS-XX_.IES****CANDELA TABULATION - (Cont.)**

27.0	362.386
27.5	354.477
28.0	346.983
28.5	339.074
29.0	331.372
29.5	323.671
30.0	315.553
30.5	307.227
31.0	298.693
31.5	289.951
32.0	281.625
32.5	272.883
33.0	263.932
33.5	254.982
34.0	245.615
34.5	236.248
35.0	226.674
35.5	216.682
36.0	206.338
36.5	195.493
37.0	183.899
37.5	171.598
38.0	158.880
38.5	145.912
39.0	133.007
39.5	120.497
40.0	108.591
40.5	97.393
41.0	86.944
41.5	77.181
42.0	68.065
42.5	59.697
43.0	52.141
43.5	45.480
44.0	39.860
44.5	35.177
45.0	31.285
45.5	28.058
46.0	25.373
46.5	23.084
47.0	21.148
47.5	19.483
48.0	18.026
48.5	16.735
49.0	15.590
49.5	14.570
50.0	13.613
50.5	12.759
51.0	11.969
51.5	11.240
52.0	10.574
52.5	9.929
53.0	9.325
53.5	8.742
54.0	8.201
54.5	7.681

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CANDELA TABULATION - (Cont.)

55.0	7.223
55.5	6.806
56.0	6.432
56.5	6.078
57.0	5.766
57.5	5.474
58.0	5.204
58.5	4.954
59.0	4.725
59.5	4.475
60.0	4.267
60.5	4.038
61.0	3.851
61.5	3.643
62.0	3.455
62.5	3.268
63.0	3.101
63.5	2.914
64.0	2.748
64.5	2.581
65.0	2.415
65.5	2.269
66.0	2.123
66.5	1.957
67.0	1.832
67.5	1.686
68.0	1.561
68.5	1.457
69.0	1.332
69.5	1.228
70.0	1.124
70.5	1.041
71.0	0.957
71.5	0.874
72.0	0.791
72.5	0.729
73.0	0.666
73.5	0.604
74.0	0.562
74.5	0.500
75.0	0.458
75.5	0.416
76.0	0.375
76.5	0.354
77.0	0.312
77.5	0.271
78.0	0.250
78.5	0.229
79.0	0.208
79.5	0.187
80.0	0.167
80.5	0.146
81.0	0.125
81.5	0.125
82.0	0.104
82.5	0.083

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CANDELA TABULATION - (Cont.)

83.0	0.083
83.5	0.062
84.0	0.062
84.5	0.062
85.0	0.042
85.5	0.042
86.0	0.042
86.5	0.021
87.0	0.021
87.5	0.021
88.0	0.021
88.5	0.021
89.0	0.021
89.5	0.021
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
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130.0	0.000
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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

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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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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	163.67	N.A.	31.70
0-30	338.35	N.A.	65.60
0-40	474.58	N.A.	92.00
0-60	512.91	N.A.	99.40
0-80	515.92	N.A.	100.00
0-90	515.99	N.A.	100.00
10-90	475.07	N.A.	92.10
20-40	310.91	N.A.	60.30
20-50	342.30	N.A.	66.30
40-70	40.80	N.A.	7.90
60-80	3.02	N.A.	0.60
70-80	0.55	N.A.	0.10
80-90	0.07	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	515.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	40.92
10-20	122.75
20-30	174.68
30-40	136.23
40-50	31.39
50-60	6.94
60-70	2.47
70-80	0.55
80-90	0.07
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

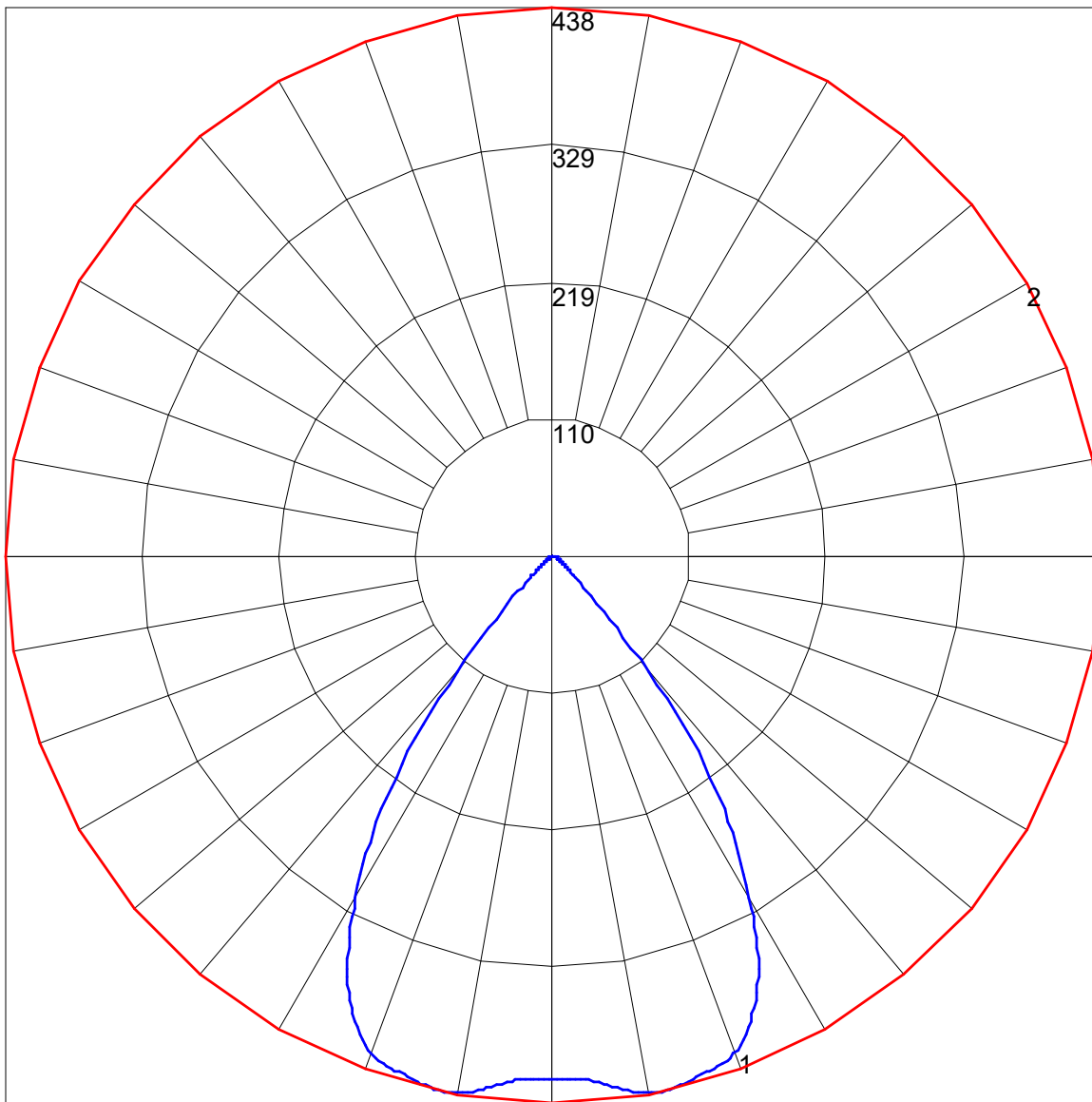
X=2H	Y=2H	6.5	7.6	6.9	7.9	8.2	6.5	7.6	6.9	7.9	8.2
	3H	6.8	7.7	7.2	8.0	8.4	6.8	7.7	7.2	8.0	8.4
	4H	6.8	7.6	7.2	8.0	8.3	6.8	7.6	7.2	8.0	8.3
	6H	6.7	7.4	7.1	7.8	8.2	6.7	7.4	7.1	7.8	8.2
	8H	6.7	7.3	7.1	7.7	8.1	6.7	7.3	7.1	7.7	8.1
	12H	6.6	7.3	7.0	7.6	8.1	6.6	7.3	7.0	7.6	8.1

UGR Viewed Endwise

4H	2H	6.6	7.4	7.0	7.8	8.2	6.6	7.4	7.0	7.8	8.2
	3H	6.9	7.6	7.3	8.0	8.4	6.9	7.6	7.3	8.0	8.4
	4H	6.9	7.5	7.3	7.9	8.3	6.9	7.5	7.3	7.9	8.3
	6H	6.8	7.3	7.3	7.8	8.2	6.8	7.3	7.3	7.8	8.2
	8H	6.7	7.2	7.2	7.7	8.1	6.7	7.2	7.2	7.7	8.1
	12H	6.7	7.1	7.2	7.6	8.0	6.7	7.1	7.2	7.6	8.0
8H	4H	6.7	7.2	7.2	7.7	8.1	6.7	7.2	7.2	7.7	8.1
	6H	6.7	7.0	7.2	7.5	8.0	6.7	7.0	7.2	7.5	8.0
	8H	6.6	6.9	7.1	7.5	7.9	6.6	6.9	7.1	7.5	7.9
	12H	6.6	6.8	7.1	7.3	7.9	6.6	6.8	7.1	7.3	7.9
12H	4H	6.7	7.1	7.2	7.6	8.0	6.7	7.1	7.2	7.6	8.0
	6H	6.6	6.9	7.1	7.4	7.9	6.6	6.9	7.1	7.4	7.9
	8H	6.6	6.8	7.1	7.3	7.9	6.6	6.8	7.1	7.3	7.9

Maximum UGR = 8.4

POLAR GRAPH



Maximum Candela = 438.361 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.)