



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L15-835-XXX-DIM-UNV-LM-OF-WH-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] 13257153.06  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 01/25/2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4CR-L15-835-xxx-DIM-UNV-LM-OF-WH-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	1620
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	17.2998
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.50
Spacing Criterion (90-270)	0.50
Spacing Criterion (Diagonal)	0.48
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	76400	76400	76400
55	62129	62129	62129
65	51072	51072	51072
75	40474	40474	40474
85	22513	22513	22513

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CANDELA TABULATION

	<u>0</u>
0.0	3927.0
0.5	3924.0
1.0	3918.0
1.5	3908.0
2.0	3893.0
2.5	3875.0
3.0	3851.0
3.5	3823.0
4.0	3792.0
4.5	3755.0
5.0	3714.0
5.5	3670.0
6.0	3621.0
6.5	3568.0
7.0	3511.0
7.5	3450.0
8.0	3382.0
8.5	3309.0
9.0	3230.0
9.5	3144.0
10.0	3051.0
10.5	2952.0
11.0	2847.0
11.5	2737.0
12.0	2621.0
12.5	2500.0
13.0	2377.0
13.5	2253.0
14.0	2129.0
14.5	2004.0
15.0	1880.0
15.5	1759.0
16.0	1643.0
16.5	1532.0
17.0	1427.0
17.5	1329.0
18.0	1237.0
18.5	1152.0
19.0	1073.0
19.5	1002.0
20.0	936.9
20.5	879.0
21.0	827.7
21.5	781.6
22.0	739.3
22.5	700.9
23.0	665.7
23.5	633.9
24.0	604.4
24.5	576.8
25.0	550.8
25.5	526.3
26.0	503.3
26.5	481.3

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**CANDELA TABULATION - (Cont.)**

27.0	460.7
27.5	441.2
28.0	422.9
28.5	405.7
29.0	389.7
29.5	374.7
30.0	361.0
30.5	348.1
31.0	336.3
31.5	325.2
32.0	314.8
32.5	305.2
33.0	296.2
33.5	287.9
34.0	280.1
34.5	272.8
35.0	265.9
35.5	259.4
36.0	253.2
36.5	247.4
37.0	241.8
37.5	236.5
38.0	231.4
38.5	226.4
39.0	221.5
39.5	216.7
40.0	212.1
40.5	207.5
41.0	203.0
41.5	198.6
42.0	194.3
42.5	190.1
43.0	186.0
43.5	182.0
44.0	178.1
44.5	174.4
45.0	170.7
45.5	167.2
46.0	163.7
46.5	160.3
47.0	156.9
47.5	153.6
48.0	150.4
48.5	147.2
49.0	144.2
49.5	141.2
50.0	138.3
50.5	135.5
51.0	132.7
51.5	130.0
52.0	127.4
52.5	124.8
53.0	122.3
53.5	119.8
54.0	117.4
54.5	115.0

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CANDELA TABULATION - (Cont.)

55.0	112.6
55.5	110.2
56.0	107.9
56.5	105.6
57.0	103.3
57.5	100.9
58.0	98.7
58.5	96.4
59.0	94.2
59.5	91.9
60.0	89.7
60.5	87.5
61.0	85.2
61.5	83.1
62.0	80.9
62.5	78.7
63.0	76.5
63.5	74.4
64.0	72.3
64.5	70.2
65.0	68.2
65.5	66.2
66.0	64.2
66.5	62.3
67.0	60.5
67.5	58.6
68.0	56.8
68.5	55.0
69.0	53.2
69.5	51.4
70.0	49.6
70.5	47.9
71.0	46.2
71.5	44.5
72.0	42.8
72.5	41.1
73.0	39.4
73.5	37.8
74.0	36.2
74.5	34.7
75.0	33.1
75.5	31.6
76.0	30.1
76.5	28.6
77.0	27.1
77.5	25.7
78.0	24.3
78.5	22.9
79.0	21.5
79.5	20.1
80.0	18.8
80.5	17.5
81.0	16.2
81.5	14.9
82.0	13.6
82.5	12.4

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CANDELA TABULATION - (Cont.)

83.0	11.2
83.5	9.9
84.0	8.7
84.5	7.5
85.0	6.2
85.5	4.9
86.0	3.7
86.5	2.7
87.0	1.8
87.5	1.2
88.0	0.8
88.5	0.6
89.0	0.4
89.5	0.3
90.0	0.0
90.5	0.0
91.0	0.0
91.5	0.0
92.0	0.0
92.5	0.0
93.0	0.0
93.5	0.0
94.0	0.0
94.5	0.0
95.0	0.0
95.5	0.0
96.0	0.0
96.5	0.0
97.0	0.0
97.5	0.0
98.0	0.0
98.5	0.0
99.0	0.0
99.5	0.0
100.0	0.0
100.5	0.0
101.0	0.0
101.5	0.0
102.0	0.0
102.5	0.0
103.0	0.0
103.5	0.0
104.0	0.0
104.5	0.0
105.0	0.0
105.5	0.0
106.0	0.0
106.5	0.0
107.0	0.0
107.5	0.0
108.0	0.0
108.5	0.0
109.0	0.0
109.5	0.0
110.0	0.0
110.5	0.0

CANDELA TABULATION - (Cont.)

111.0	0.0
111.5	0.0
112.0	0.0
112.5	0.0
113.0	0.0
113.5	0.0
114.0	0.0
114.5	0.0
115.0	0.0
115.5	0.0
116.0	0.0
116.5	0.0
117.0	0.0
117.5	0.0
118.0	0.0
118.5	0.0
119.0	0.0
119.5	0.0
120.0	0.0
120.5	0.0
121.0	0.0
121.5	0.0
122.0	0.0
122.5	0.0
123.0	0.0
123.5	0.0
124.0	0.0
124.5	0.0
125.0	0.0
125.5	0.0
126.0	0.0
126.5	0.0
127.0	0.0
127.5	0.0
128.0	0.0
128.5	0.0
129.0	0.0
129.5	0.0
130.0	0.0
130.5	0.0
131.0	0.0
131.5	0.0
132.0	0.0
132.5	0.0
133.0	0.0
133.5	0.0
134.0	0.0
134.5	0.0
135.0	0.0
135.5	0.0
136.0	0.0
136.5	0.0
137.0	0.0
137.5	0.0
138.0	0.0
138.5	0.0

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CANDELA TABULATION - (Cont.)

139.0	0.0
139.5	0.0
140.0	0.0
140.5	0.0
141.0	0.0
141.5	0.0
142.0	0.0
142.5	0.0
143.0	0.0
143.5	0.0
144.0	0.0
144.5	0.0
145.0	0.0
145.5	0.0
146.0	0.0
146.5	0.0
147.0	0.0
147.5	0.0
148.0	0.0
148.5	0.0
149.0	0.0
149.5	0.0
150.0	0.0
150.5	0.0
151.0	0.0
151.5	0.0
152.0	0.0
152.5	0.0
153.0	0.0
153.5	0.0
154.0	0.0
154.5	0.0
155.0	0.0
155.5	0.0
156.0	0.0
156.5	0.0
157.0	0.0
157.5	0.0
158.0	0.0
158.5	0.0
159.0	0.0
159.5	0.0
160.0	0.0
160.5	0.0
161.0	0.0
161.5	0.0
162.0	0.0
162.5	0.0
163.0	0.0
163.5	0.0
164.0	0.0
164.5	0.0
165.0	0.0
165.5	0.0
166.0	0.0
166.5	0.0

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CANDELA TABULATION - (Cont.)

167.0	0.0
167.5	0.0
168.0	0.0
168.5	0.0
169.0	0.0
169.5	0.0
170.0	0.0
170.5	0.0
171.0	0.0
171.5	0.0
172.0	0.0
172.5	0.0
173.0	0.0
173.5	0.0
174.0	0.0
174.5	0.0
175.0	0.0
175.5	0.0
176.0	0.0
176.5	0.0
177.0	0.0
177.5	0.0
178.0	0.0
178.5	0.0
179.0	0.0
179.5	0.0
180.0	0.0



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	844.61	N.A.	52.20
0-30	1105.54	N.A.	68.30
0-40	1274.97	N.A.	78.70
0-60	1508.49	N.A.	93.10
0-80	1611.76	N.A.	99.50
0-90	1619.58	N.A.	100.00
10-90	1285.61	N.A.	79.40
20-40	430.36	N.A.	26.60
20-50	562.91	N.A.	34.80
40-70	301.49	N.A.	18.60
60-80	103.27	N.A.	6.40
70-80	35.30	N.A.	2.20
80-90	7.82	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	1619.58	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	333.96
10-20	510.65
20-30	260.93
30-40	169.42
40-50	132.56
50-60	100.97
60-70	67.96
70-80	35.30
80-90	7.82
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	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85
3	101	94	89	85	99	93	88	84	90	86	82	88	84	81	85	82	80	78
4	96	88	82	78	94	87	81	77	85	80	76	83	79	75	81	77	75	73
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69
6	87	78	72	68	86	77	72	67	76	71	67	74	70	67	73	69	66	65
7	83	74	68	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61
8	80	71	65	61	79	70	64	60	69	64	60	68	63	60	67	63	60	58
9	77	67	62	58	76	67	61	58	66	61	57	65	61	57	64	60	57	56
10	74	65	59	55	73	64	59	55	63	58	55	63	58	55	62	58	55	53

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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	22.7	23.9	23.0	24.2	24.5	22.7	23.9	23.0	24.2	24.5
	3H	24.1	25.1	24.5	25.5	25.8	24.1	25.1	24.5	25.5	25.8
	4H	24.6	25.6	25.0	25.9	26.3	24.6	25.6	25.0	25.9	26.3
	6H	24.9	25.8	25.3	26.2	26.6	24.9	25.8	25.3	26.2	26.6
	8H	25.0	25.8	25.4	26.2	26.6	25.0	25.8	25.4	26.2	26.6
	12H	25.0	25.8	25.4	26.2	26.6	25.0	25.8	25.4	26.2	26.6

### UGR Viewed Endwise

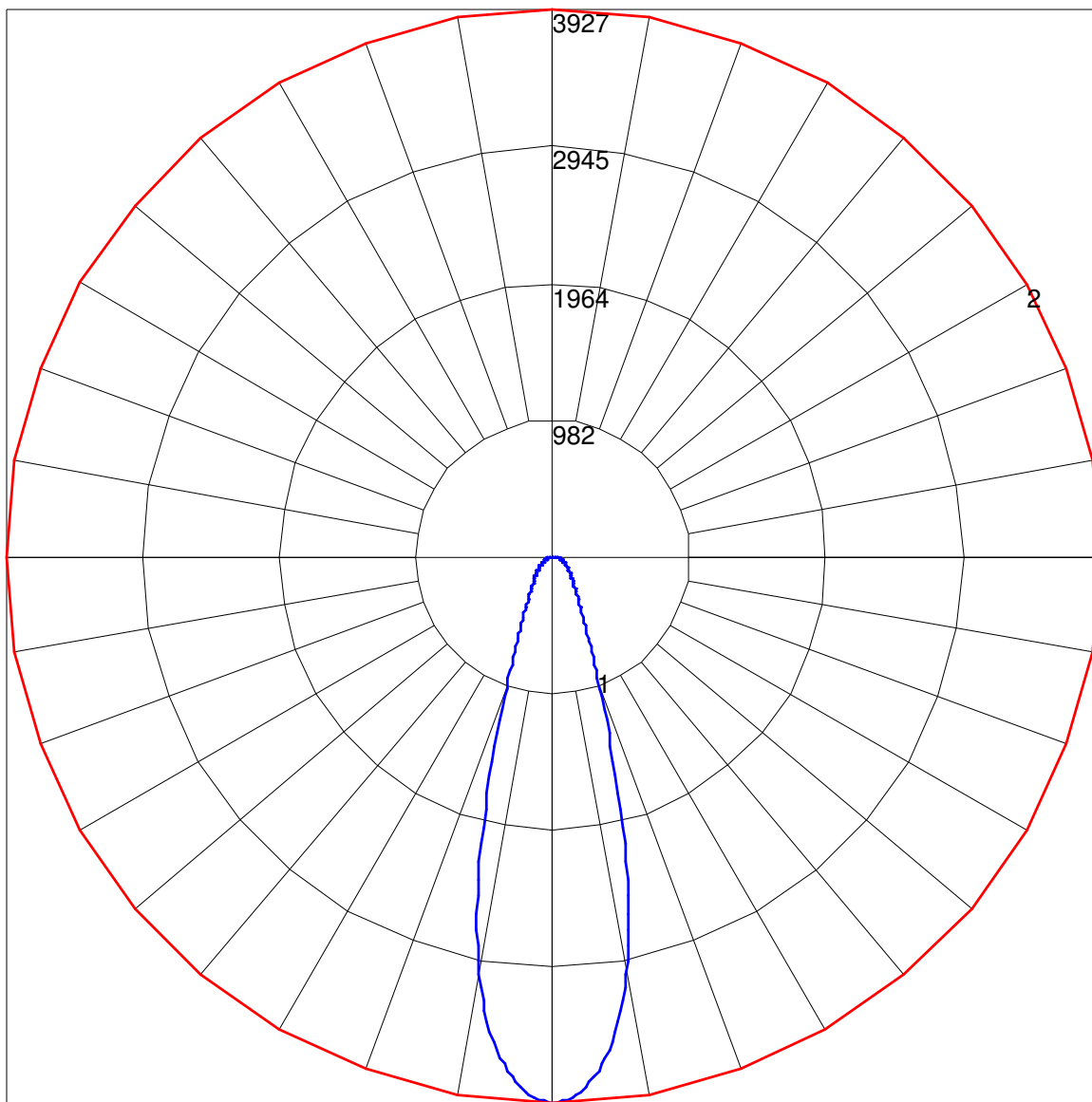
4H	2H	23.1	24.1	23.5	24.4	24.8	23.1	24.1	23.5	24.4	24.8
	3H	24.7	25.5	25.1	25.9	26.3	24.7	25.5	25.1	25.9	26.3
	4H	25.3	26.0	25.8	26.5	26.9	25.3	26.0	25.8	26.5	26.9
	6H	25.8	26.4	26.2	26.8	27.3	25.8	26.4	26.2	26.8	27.3
	8H	25.9	26.4	26.3	26.9	27.4	25.9	26.4	26.3	26.9	27.4
	12H	25.9	26.4	26.4	26.9	27.4	25.9	26.4	26.4	26.9	27.4

8H	4H	25.5	26.1	26.0	26.5	27.0	25.5	26.1	26.0	26.5	27.0
	6H	26.0	26.5	26.6	27.0	27.5	26.0	26.5	26.6	27.0	27.5
	8H	26.2	26.6	26.7	27.1	27.6	26.2	26.6	26.7	27.1	27.6
	12H	26.3	26.7	26.8	27.2	27.7	26.3	26.7	26.8	27.2	27.7

12H	4H	25.5	26.0	26.0	26.5	27.0	25.5	26.0	26.0	26.5	27.0
	6H	26.1	26.5	26.6	26.9	27.5	26.1	26.5	26.6	26.9	27.5
	8H	26.3	26.6	26.8	27.1	27.7	26.3	26.6	26.8	27.1	27.7

Maximum UGR = 27.7

POLAR GRAPH



Maximum Candela = 3927 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.)