



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] 13257153.02  
 [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-LW-OF-WH-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	1429
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	83
Total Luminaire Watts	17.2931
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.80
Spacing Criterion (90-270)	0.80
Spacing Criterion (Diagonal)	0.88
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	108670	108670	108670
55	103291	103291	103291
65	106937	106937	106937
75	110051	110051	110051
85	54831	54831	54831

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CANDELA TABULATION

	<u>0</u>
0.0	1054.0
0.5	1054.0
1.0	1053.0
1.5	1052.0
2.0	1050.0
2.5	1047.0
3.0	1044.0
3.5	1040.0
4.0	1035.0
4.5	1030.0
5.0	1025.0
5.5	1019.0
6.0	1013.0
6.5	1006.0
7.0	998.8
7.5	991.2
8.0	983.5
8.5	975.4
9.0	966.7
9.5	958.0
10.0	948.6
10.5	939.0
11.0	929.0
11.5	918.5
12.0	907.9
12.5	896.9
13.0	885.6
13.5	874.2
14.0	862.2
14.5	849.9
15.0	837.6
15.5	824.7
16.0	811.8
16.5	798.6
17.0	785.5
17.5	772.2
18.0	758.9
18.5	745.4
19.0	731.8
19.5	718.1
20.0	704.4
20.5	690.8
21.0	677.3
21.5	663.9
22.0	650.4
22.5	637.0
23.0	623.7
23.5	610.6
24.0	597.8
24.5	585.1
25.0	572.5
25.5	560.1
26.0	547.8
26.5	535.6

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L15-835-XXX-DIM-UNV-LW-OF-WH-AD-XX\_.IES****CANDELA TABULATION - (Cont.)**

27.0	523.7
27.5	512.1
28.0	500.5
28.5	489.0
29.0	477.7
29.5	466.5
30.0	455.5
30.5	444.6
31.0	433.9
31.5	423.4
32.0	413.1
32.5	403.0
33.0	393.3
33.5	383.9
34.0	374.8
34.5	366.1
35.0	357.7
35.5	349.5
36.0	341.7
36.5	334.1
37.0	326.9
37.5	320.0
38.0	313.3
38.5	306.8
39.0	300.5
39.5	294.5
40.0	288.7
40.5	283.1
41.0	277.8
41.5	272.7
42.0	267.8
42.5	263.1
43.0	258.6
43.5	254.4
44.0	250.3
44.5	246.5
45.0	242.8
45.5	239.3
46.0	235.9
46.5	232.6
47.0	229.3
47.5	226.2
48.0	223.1
48.5	220.1
49.0	217.2
49.5	214.4
50.0	211.6
50.5	209.0
51.0	206.4
51.5	203.8
52.0	201.4
52.5	199.0
53.0	196.6
53.5	194.2
54.0	191.9
54.5	189.6

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55.0	187.2
55.5	185.0
56.0	182.7
56.5	180.4
57.0	178.1
57.5	175.8
58.0	173.5
58.5	171.3
59.0	169.0
59.5	166.8
60.0	164.5
60.5	162.4
61.0	160.2
61.5	158.1
62.0	155.9
62.5	153.8
63.0	151.6
63.5	149.4
64.0	147.2
64.5	145.0
65.0	142.8
65.5	140.4
66.0	138.1
66.5	135.8
67.0	133.4
67.5	131.1
68.0	128.7
68.5	126.2
69.0	123.8
69.5	121.2
70.0	118.6
70.5	116.1
71.0	113.4
71.5	110.6
72.0	107.9
72.5	105.0
73.0	102.1
73.5	99.2
74.0	96.2
74.5	93.1
75.0	90.0
75.5	86.8
76.0	83.5
76.5	80.2
77.0	76.9
77.5	73.4
78.0	69.9
78.5	66.3
79.0	62.6
79.5	58.9
80.0	55.1
80.5	51.2
81.0	47.3
81.5	43.2
82.0	39.2
82.5	35.1

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CANDELA TABULATION - (Cont.)

83.0	31.1
83.5	27.0
84.0	22.9
84.5	18.9
85.0	15.1
85.5	11.6
86.0	8.5
86.5	6.1
87.0	4.3
87.5	2.8
88.0	2.0
88.5	1.5
89.0	1.0
89.5	0.8
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L15-835-XXX-DIM-UNV-LW-OF-WH-AD-XX\_.IES****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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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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L15-835-XXX-DIM-UNV-LW-OF-WH-AD-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	327.92	N.A.	22.90
0-30	590.51	N.A.	41.30
0-40	816.16	N.A.	57.10
0-60	1173.04	N.A.	82.10
0-80	1407.86	N.A.	98.50
0-90	1429.43	N.A.	100.00
10-90	1334.06	N.A.	93.30
20-40	488.25	N.A.	34.20
20-50	677.35	N.A.	47.40
40-70	497.85	N.A.	34.80
60-80	234.81	N.A.	16.40
70-80	93.84	N.A.	6.60
80-90	21.58	N.A.	1.50
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	1429.43	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	95.37
10-20	232.54
20-30	262.60
30-40	225.65
40-50	189.10
50-60	167.78
60-70	140.98
70-80	93.84
80-90	21.58
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	110	105	102	98	107	103	100	96	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	68	76	71	67	74	70	66	64
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	63	59	57
5	80	69	60	54	78	68	60	54	65	59	54	64	58	53	62	57	52	51
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41
8	66	54	46	41	65	53	46	40	52	45	40	51	44	40	49	44	40	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

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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	26.6	28.1	27.0	28.5	28.8	26.6	28.1	27.0	28.5	28.8
	3H	28.9	30.3	29.3	30.6	30.9	28.9	30.3	29.3	30.6	30.9
	4H	29.8	31.1	30.2	31.4	31.8	29.8	31.1	30.2	31.4	31.8
	6H	30.5	31.7	30.9	32.1	32.4	30.5	31.7	30.9	32.1	32.4
	8H	30.7	31.8	31.1	32.2	32.6	30.7	31.8	31.1	32.2	32.6
	12H	30.8	31.8	31.2	32.2	32.7	30.8	31.8	31.2	32.2	32.7

### UGR Viewed Endwise

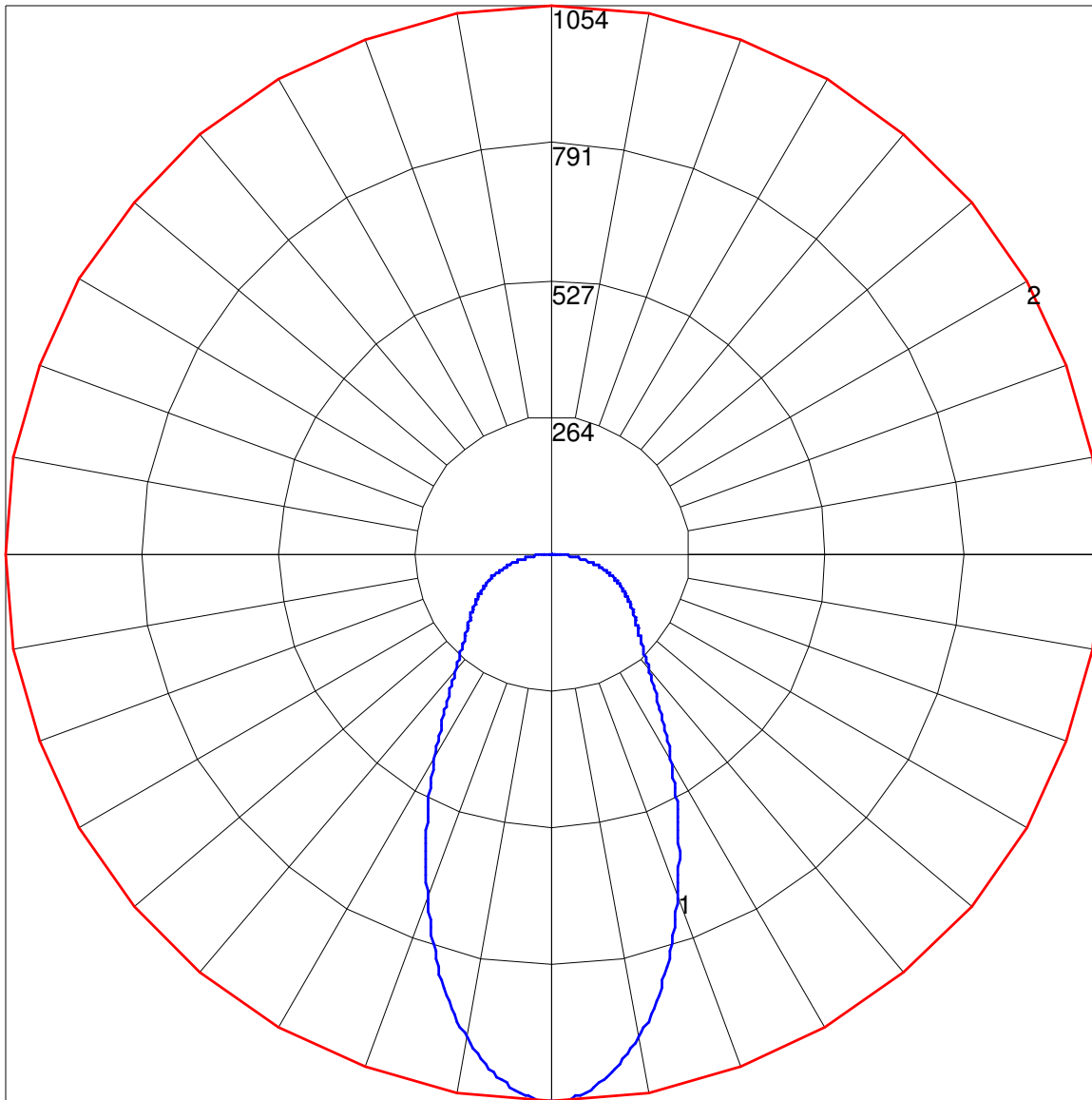
4H	2H	27.4	28.7	27.8	29.0	29.4	27.4	28.7	27.8	29.0	29.4
	3H	29.9	30.9	30.3	31.3	31.7	29.9	30.9	30.3	31.3	31.7
	4H	30.9	31.9	31.3	32.3	32.7	30.9	31.9	31.3	32.3	32.7
	6H	31.7	32.6	32.2	33.0	33.5	31.7	32.6	32.2	33.0	33.5
	8H	32.0	32.8	32.4	33.2	33.7	32.0	32.8	32.4	33.2	33.7
	12H	32.1	32.8	32.5	33.3	33.7	32.1	32.8	32.5	33.3	33.7

8H	4H	31.3	32.1	31.8	32.6	33.0	31.3	32.1	31.8	32.6	33.0
	6H	32.3	32.9	32.8	33.4	33.9	32.3	32.9	32.8	33.4	33.9
	8H	32.5	33.1	33.1	33.6	34.1	32.5	33.1	33.1	33.6	34.1
	12H	32.7	33.2	33.2	33.7	34.3	32.7	33.2	33.2	33.7	34.3

12H	4H	31.4	32.1	31.9	32.6	33.0	31.4	32.1	31.9	32.6	33.0
	6H	32.3	32.9	32.9	33.4	33.9	32.3	32.9	32.9	33.4	33.9
	8H	32.7	33.2	33.2	33.7	34.2	32.7	33.2	33.2	33.7	34.2

Maximum UGR = 34.3

POLAR GRAPH



Maximum Candela = 1054 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.)