



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L15-835-XXX-DIM-UNV-RM-OF-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13257153.07
 [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-RM-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	1550
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	17.2909
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	71611	71611	71611
55	52473	52473	52473
65	38416	38416	38416
75	18953	18953	18953
85	11257	11257	11257

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CANDELA TABULATION

	<u>0</u>
0.0	3925.0
0.5	3922.0
1.0	3913.0
1.5	3900.0
2.0	3881.0
2.5	3857.0
3.0	3827.0
3.5	3794.0
4.0	3756.0
4.5	3713.0
5.0	3665.0
5.5	3613.0
6.0	3556.0
6.5	3495.0
7.0	3429.0
7.5	3360.0
8.0	3286.0
8.5	3207.0
9.0	3122.0
9.5	3032.0
10.0	2938.0
10.5	2840.0
11.0	2737.0
11.5	2630.0
12.0	2519.0
12.5	2405.0
13.0	2289.0
13.5	2172.0
14.0	2055.0
14.5	1939.0
15.0	1824.0
15.5	1711.0
16.0	1602.0
16.5	1498.0
17.0	1399.0
17.5	1306.0
18.0	1220.0
18.5	1139.0
19.0	1065.0
19.5	997.0
20.0	936.2
20.5	881.7
21.0	832.6
21.5	788.3
22.0	748.8
22.5	712.8
23.0	680.5
23.5	651.3
24.0	625.3
24.5	601.2
25.0	578.0
25.5	556.3
26.0	535.8
26.5	515.9

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CANDELA TABULATION - (Cont.)

27.0	497.0
27.5	478.7
28.0	460.8
28.5	443.2
29.0	425.7
29.5	408.4
30.0	391.6
30.5	375.2
31.0	359.2
31.5	344.1
32.0	330.2
32.5	317.2
33.0	305.2
33.5	294.4
34.0	284.6
34.5	275.5
35.0	267.1
35.5	259.4
36.0	252.3
36.5	245.6
37.0	239.4
37.5	233.4
38.0	227.6
38.5	222.1
39.0	216.6
39.5	211.3
40.0	206.2
40.5	201.1
41.0	196.1
41.5	191.2
42.0	186.4
42.5	181.8
43.0	177.2
43.5	172.8
44.0	168.4
44.5	164.2
45.0	160.0
45.5	155.9
46.0	152.0
46.5	148.0
47.0	144.2
47.5	140.4
48.0	136.7
48.5	133.1
49.0	129.6
49.5	126.2
50.0	123.0
50.5	119.8
51.0	116.7
51.5	113.8
52.0	110.9
52.5	108.1
53.0	105.4
53.5	102.7
54.0	100.1
54.5	97.6

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CANDELA TABULATION - (Cont.)

55.0	95.1
55.5	92.6
56.0	90.3
56.5	87.9
57.0	85.6
57.5	83.3
58.0	81.0
58.5	78.8
59.0	76.5
59.5	74.4
60.0	72.2
60.5	70.0
61.0	67.9
61.5	65.7
62.0	63.6
62.5	61.5
63.0	59.4
63.5	57.4
64.0	55.3
64.5	53.3
65.0	51.3
65.5	49.3
66.0	47.4
66.5	45.4
67.0	43.5
67.5	41.7
68.0	39.8
68.5	38.0
69.0	36.1
69.5	34.3
70.0	32.5
70.5	30.7
71.0	29.0
71.5	27.2
72.0	25.5
72.5	23.8
73.0	22.1
73.5	20.4
74.0	18.7
74.5	17.1
75.0	15.5
75.5	14.0
76.0	12.6
76.5	11.5
77.0	10.5
77.5	9.7
78.0	9.0
78.5	8.5
79.0	8.1
79.5	7.6
80.0	7.2
80.5	6.7
81.0	6.3
81.5	5.9
82.0	5.5
82.5	5.0

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CANDELA TABULATION - (Cont.)

83.0	4.6
83.5	4.3
84.0	3.9
84.5	3.5
85.0	3.1
85.5	2.7
86.0	2.4
86.5	2.0
87.0	1.7
87.5	1.3
88.0	1.0
88.5	0.7
89.0	0.5
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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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	822.96	N.A.	53.10
0-30	1095.39	N.A.	70.70
0-40	1267.7	N.A.	81.80
0-60	1477.42	N.A.	95.30
0-80	1546.38	N.A.	99.80
0-90	1549.92	N.A.	100.00
10-90	1223.1	N.A.	78.90
20-40	444.74	N.A.	28.70
20-50	568.87	N.A.	36.70
40-70	260.74	N.A.	16.80
60-80	68.96	N.A.	4.40
70-80	17.94	N.A.	1.20
80-90	3.54	N.A.	0.20
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	1549.92	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	326.82
10-20	496.14
20-30	272.43
30-40	172.31
40-50	124.13
50-60	85.59
60-70	51.01
70-80	17.94
80-90	3.54
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	105	111	108	106	104	104	102	100	100	99	97	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	86	91	87	84	89	86	83	87	84	82	80
4	97	89	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75
5	93	84	78	74	91	83	78	74	81	77	73	80	76	72	78	75	72	70
6	88	80	74	70	87	79	73	69	77	72	69	76	72	68	75	71	68	67
7	85	76	70	66	83	75	69	66	74	69	65	72	68	65	71	67	64	63
8	81	72	66	62	80	71	66	62	70	65	62	69	65	62	68	64	61	60
9	78	69	63	59	77	68	63	59	67	63	59	67	62	59	66	62	59	57
10	75	66	60	57	74	65	60	57	65	60	57	64	60	56	63	59	56	55

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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	21.6	22.7	21.9	23.0	23.3	21.6	22.7	21.9	23.0	23.3
	3H	22.6	23.6	23.0	23.9	24.3	22.6	23.6	23.0	23.9	24.3
	4H	22.7	23.7	23.2	24.0	24.4	22.7	23.7	23.2	24.0	24.4
	6H	22.8	23.6	23.2	24.0	24.4	22.8	23.6	23.2	24.0	24.4
	8H	22.8	23.6	23.2	24.0	24.4	22.8	23.6	23.2	24.0	24.4
	12H	22.7	23.5	23.2	23.9	24.3	22.7	23.5	23.2	23.9	24.3

UGR Viewed Endwise

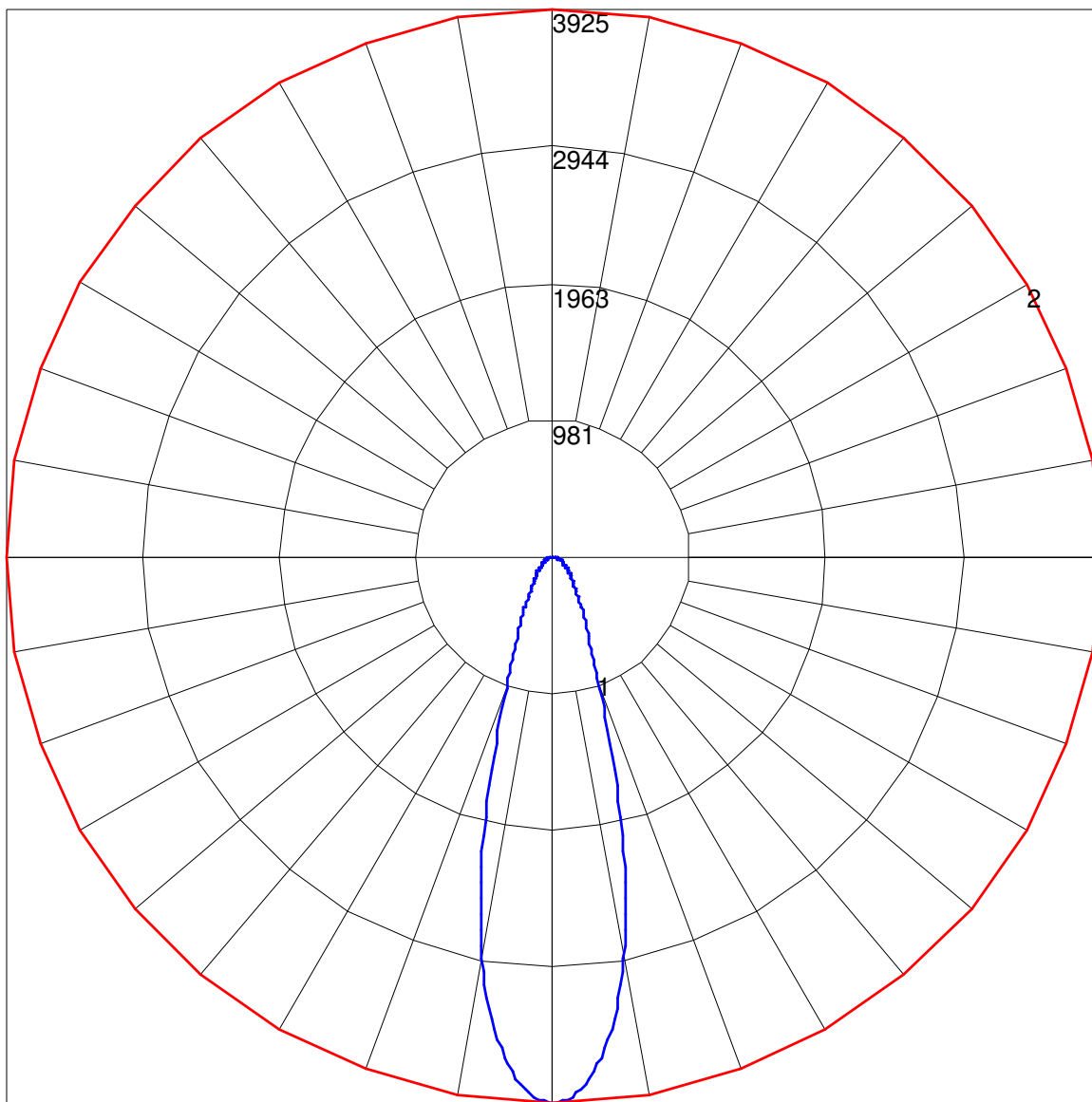
4H	2H	21.9	22.8	22.3	23.2	23.6	21.9	22.8	22.3	23.2	23.6
	3H	23.1	23.8	23.5	24.2	24.6	23.1	23.8	23.5	24.2	24.6
	4H	23.3	23.9	23.7	24.4	24.8	23.3	23.9	23.7	24.4	24.8
	6H	23.3	23.9	23.8	24.3	24.8	23.3	23.9	23.8	24.3	24.8
	8H	23.3	23.9	23.8	24.3	24.8	23.3	23.9	23.8	24.3	24.8
	12H	23.3	23.8	23.8	24.3	24.7	23.3	23.8	23.8	24.3	24.7

8H	4H	23.2	23.8	23.7	24.2	24.7	23.2	23.8	23.7	24.2	24.7
	6H	23.3	23.8	23.8	24.3	24.8	23.3	23.8	23.8	24.3	24.8
	8H	23.3	23.7	23.9	24.3	24.8	23.3	23.7	23.9	24.3	24.8
	12H	23.4	23.7	23.9	24.2	24.8	23.4	23.7	23.9	24.2	24.8

12H	4H	23.2	23.7	23.7	24.2	24.6	23.2	23.7	23.7	24.2	24.6
	6H	23.3	23.7	23.8	24.2	24.7	23.3	23.7	23.8	24.2	24.7
	8H	23.4	23.7	23.9	24.2	24.8	23.4	23.7	23.9	24.2	24.8

Maximum UGR = 24.8

POLAR GRAPH



Maximum Candela = 3925 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.)