



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-LW-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13257153.01
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-xx-L15-835-xxx-DIM-UNV-LW-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	1645
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	17.3145
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.86
Spacing Criterion (90-270)	0.86
Spacing Criterion (Diagonal)	0.78
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	67852	67852	67852
55	59260	59260	59260
65	50623	50623	50623
75	40841	40841	40841
85	22877	22877	22877

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CANDELA TABULATION

	<u>0</u>
0.0	1941.0
0.5	1940.0
1.0	1940.0
1.5	1939.0
2.0	1938.0
2.5	1935.0
3.0	1932.0
3.5	1929.0
4.0	1925.0
4.5	1920.0
5.0	1915.0
5.5	1910.0
6.0	1905.0
6.5	1899.0
7.0	1893.0
7.5	1887.0
8.0	1880.0
8.5	1873.0
9.0	1865.0
9.5	1857.0
10.0	1848.0
10.5	1838.0
11.0	1828.0
11.5	1817.0
12.0	1806.0
12.5	1793.0
13.0	1780.0
13.5	1766.0
14.0	1751.0
14.5	1735.0
15.0	1718.0
15.5	1699.0
16.0	1680.0
16.5	1659.0
17.0	1636.0
17.5	1613.0
18.0	1587.0
18.5	1560.0
19.0	1530.0
19.5	1498.0
20.0	1465.0
20.5	1429.0
21.0	1392.0
21.5	1352.0
22.0	1310.0
22.5	1267.0
23.0	1222.0
23.5	1176.0
24.0	1129.0
24.5	1081.0
25.0	1032.0
25.5	983.5
26.0	934.4
26.5	885.8

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CANDELA TABULATION - (Cont.)

27.0	837.9
27.5	791.0
28.0	745.1
28.5	700.3
29.0	656.9
29.5	614.6
30.0	574.9
30.5	537.4
31.0	502.0
31.5	469.0
32.0	438.1
32.5	409.4
33.0	383.1
33.5	359.0
34.0	337.1
34.5	317.1
35.0	298.9
35.5	282.4
36.0	267.5
36.5	254.2
37.0	242.2
37.5	231.5
38.0	221.9
38.5	213.2
39.0	205.4
39.5	198.4
40.0	192.0
40.5	186.3
41.0	181.1
41.5	176.3
42.0	171.9
42.5	167.8
43.0	164.1
43.5	160.7
44.0	157.5
44.5	154.5
45.0	151.6
45.5	148.9
46.0	146.3
46.5	143.8
47.0	141.4
47.5	139.0
48.0	136.7
48.5	134.4
49.0	132.1
49.5	129.9
50.0	127.8
50.5	125.7
51.0	123.5
51.5	121.5
52.0	119.4
52.5	117.4
53.0	115.4
53.5	113.4
54.0	111.4
54.5	109.4

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CANDELA TABULATION - (Cont.)

55.0	107.4
55.5	105.4
56.0	103.5
56.5	101.4
57.0	99.5
57.5	97.5
58.0	95.5
58.5	93.5
59.0	91.5
59.5	89.5
60.0	87.5
60.5	85.5
61.0	83.5
61.5	81.4
62.0	79.5
62.5	77.5
63.0	75.4
63.5	73.4
64.0	71.4
64.5	69.5
65.0	67.6
65.5	65.7
66.0	63.8
66.5	62.0
67.0	60.1
67.5	58.4
68.0	56.6
68.5	54.9
69.0	53.2
69.5	51.4
70.0	49.7
70.5	48.0
71.0	46.4
71.5	44.7
72.0	43.0
72.5	41.4
73.0	39.7
73.5	38.1
74.0	36.6
74.5	35.0
75.0	33.4
75.5	31.9
76.0	30.4
76.5	28.9
77.0	27.5
77.5	26.0
78.0	24.6
78.5	23.2
79.0	21.8
79.5	20.4
80.0	19.1
80.5	17.7
81.0	16.4
81.5	15.1
82.0	13.8
82.5	12.5

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CANDELA TABULATION - (Cont.)

83.0	11.3
83.5	10.0
84.0	8.8
84.5	7.5
85.0	6.3
85.5	5.0
86.0	3.7
86.5	2.8
87.0	2.0
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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	656.21	N.A.	39.90
0-30	1118.74	N.A.	68.00
0-40	1319.69	N.A.	80.20
0-60	1534.48	N.A.	93.30
0-80	1637.29	N.A.	99.50
0-90	1645.22	N.A.	100.00
10-90	1464.5	N.A.	89.00
20-40	663.48	N.A.	40.30
20-50	782.22	N.A.	47.50
40-70	282.01	N.A.	17.10
60-80	102.81	N.A.	6.20
70-80	35.60	N.A.	2.20
80-90	7.92	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	1645.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	180.72
10-20	475.49
20-30	462.53
30-40	200.95
40-50	118.74
50-60	96.05
60-70	67.21
70-80	35.60
80-90	7.92
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	112	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91
2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76
4	94	86	80	75	93	85	79	75	83	78	74	81	76	73	79	75	72	70
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65
6	85	75	69	64	83	74	68	64	73	67	63	71	67	63	70	66	63	61
7	81	71	64	60	79	70	64	60	69	63	59	67	63	59	66	62	59	57
8	77	67	60	56	75	66	60	56	65	59	56	64	59	55	63	58	55	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	70	60	54	50	69	59	54	50	58	53	49	58	53	49	57	52	49	48

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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

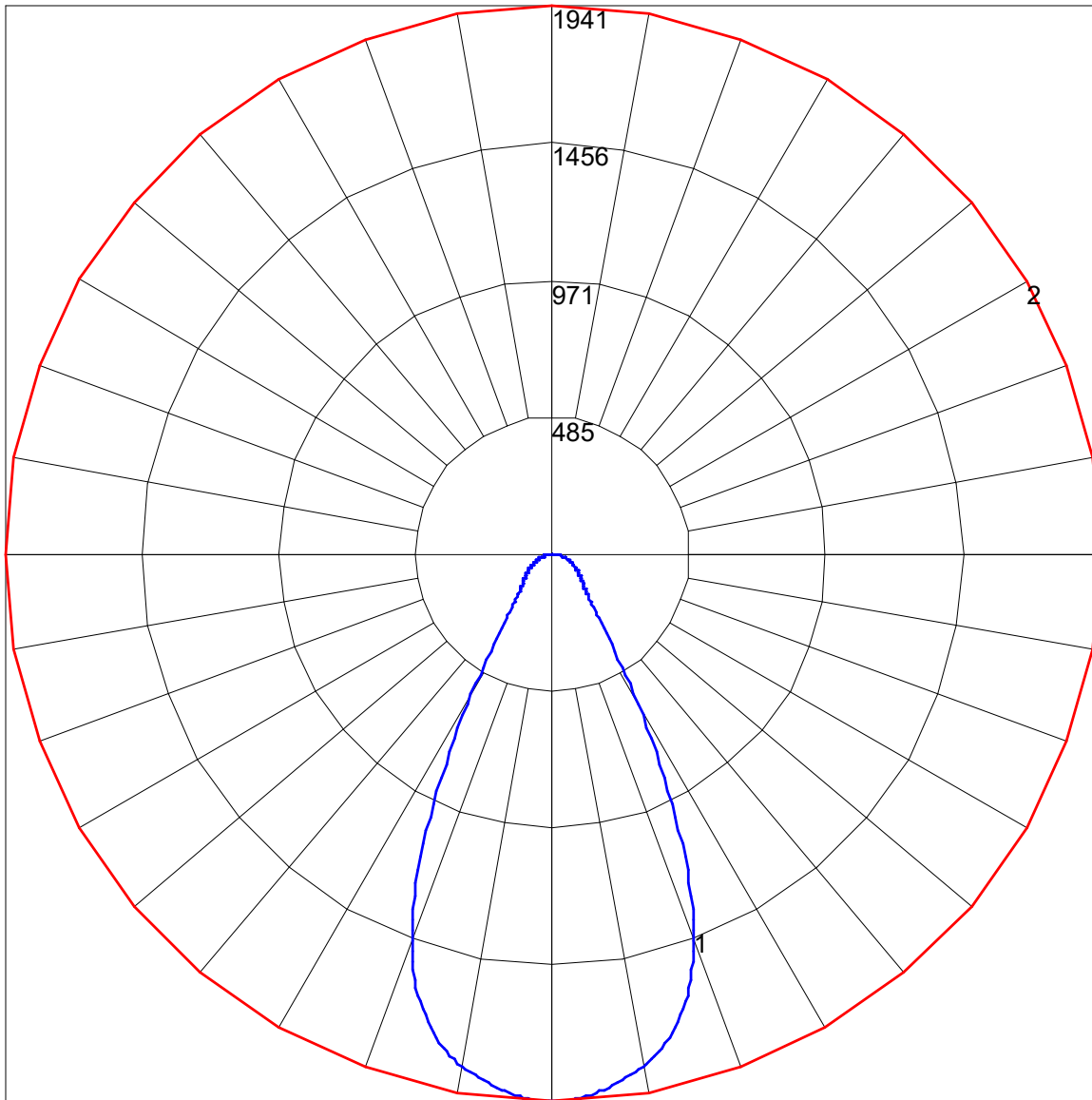
X=2H	Y=2H	22.5	23.7	22.8	24.0	24.3	22.5	23.7	22.8	24.0	24.3
	3H	24.0	25.0	24.4	25.3	25.7	24.0	25.0	24.4	25.3	25.7
	4H	24.5	25.5	24.9	25.8	26.2	24.5	25.5	24.9	25.8	26.2
	6H	24.8	25.7	25.2	26.1	26.5	24.8	25.7	25.2	26.1	26.5
	8H	24.9	25.8	25.3	26.2	26.6	24.9	25.8	25.3	26.2	26.6
	12H	24.9	25.8	25.4	26.1	26.6	24.9	25.8	25.4	26.1	26.6

UGR Viewed Endwise

4H	2H	23.0	23.9	23.4	24.3	24.7	23.0	23.9	23.4	24.3	24.7
	3H	24.6	25.4	25.1	25.8	26.3	24.6	25.4	25.1	25.8	26.3
	4H	25.3	26.0	25.7	26.4	26.9	25.3	26.0	25.7	26.4	26.9
	6H	25.7	26.3	26.2	26.8	27.3	25.7	26.3	26.2	26.8	27.3
	8H	25.8	26.4	26.3	26.9	27.3	25.8	26.4	26.3	26.9	27.3
	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	26.0	25.9	26.5	27.0	25.5	26.0	25.9	26.5	27.0
	6H	26.0	26.5	26.5	27.0	27.5	26.0	26.5	26.5	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	25.4	26.0	25.9	26.4	26.9	25.4	26.0	25.9	26.4	26.9
	6H	26.0	26.5	26.6	26.9	27.5	26.0	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 = 1941 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.)