



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13257153.03
 [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-RW-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	1628
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	17.2942
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.88
Spacing Criterion (90-270)	0.88
Spacing Criterion (Diagonal)	0.80
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	58363	58363	58363
55	46183	46183	46183
65	34522	34522	34522
75	17975	17975	17975
85	10894	10894	10894

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CANDELA TABULATION

	<u>0</u>
0.0	1940.0
0.5	1940.0
1.0	1939.0
1.5	1938.0
2.0	1938.0
2.5	1936.0
3.0	1933.0
3.5	1929.0
4.0	1925.0
4.5	1921.0
5.0	1915.0
5.5	1910.0
6.0	1904.0
6.5	1897.0
7.0	1890.0
7.5	1883.0
8.0	1876.0
8.5	1868.0
9.0	1859.0
9.5	1851.0
10.0	1842.0
10.5	1832.0
11.0	1821.0
11.5	1810.0
12.0	1798.0
12.5	1786.0
13.0	1773.0
13.5	1759.0
14.0	1744.0
14.5	1729.0
15.0	1712.0
15.5	1695.0
16.0	1676.0
16.5	1657.0
17.0	1637.0
17.5	1616.0
18.0	1594.0
18.5	1570.0
19.0	1545.0
19.5	1518.0
20.0	1490.0
20.5	1461.0
21.0	1430.0
21.5	1398.0
22.0	1363.0
22.5	1328.0
23.0	1291.0
23.5	1253.0
24.0	1213.0
24.5	1173.0
25.0	1132.0
25.5	1089.0
26.0	1045.0
26.5	1001.0

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CANDELA TABULATION - (Cont.)

27.0	957.3
27.5	913.4
28.0	869.1
28.5	825.0
29.0	779.9
29.5	734.5
30.0	689.5
30.5	645.2
31.0	601.5
31.5	559.3
32.0	518.7
32.5	480.3
33.0	444.7
33.5	411.7
34.0	381.0
34.5	352.9
35.0	327.4
35.5	304.0
36.0	282.8
36.5	263.8
37.0	246.9
37.5	231.8
38.0	218.1
38.5	205.9
39.0	195.2
39.5	185.8
40.0	177.4
40.5	170.1
41.0	163.6
41.5	157.8
42.0	152.6
42.5	148.0
43.0	143.8
43.5	140.1
44.0	136.6
44.5	133.4
45.0	130.4
45.5	127.5
46.0	124.8
46.5	122.1
47.0	119.6
47.5	117.1
48.0	114.6
48.5	112.2
49.0	109.8
49.5	107.4
50.0	105.1
50.5	102.9
51.0	100.6
51.5	98.4
52.0	96.3
52.5	94.1
53.0	92.0
53.5	89.9
54.0	87.8
54.5	85.7

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CANDELA TABULATION - (Cont.)

55.0	83.7
55.5	81.7
56.0	79.7
56.5	77.7
57.0	75.7
57.5	73.8
58.0	71.8
58.5	69.9
59.0	68.0
59.5	66.2
60.0	64.3
60.5	62.4
61.0	60.5
61.5	58.7
62.0	56.8
62.5	55.0
63.0	53.2
63.5	51.4
64.0	49.6
64.5	47.8
65.0	46.1
65.5	44.4
66.0	42.7
66.5	40.9
67.0	39.3
67.5	37.7
68.0	36.0
68.5	34.4
69.0	32.8
69.5	31.2
70.0	29.7
70.5	28.1
71.0	26.6
71.5	25.0
72.0	23.5
72.5	22.0
73.0	20.5
73.5	19.0
74.0	17.6
74.5	16.1
75.0	14.7
75.5	13.4
76.0	12.1
76.5	11.1
77.0	10.2
77.5	9.4
78.0	8.8
78.5	8.3
79.0	7.9
79.5	7.5
80.0	7.0
80.5	6.6
81.0	6.2
81.5	5.8
82.0	5.3
82.5	4.9

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CANDELA TABULATION - (Cont.)

83.0	4.6
83.5	4.2
84.0	3.8
84.5	3.4
85.0	3.0
85.5	2.7
86.0	2.3
86.5	2.0
87.0	1.6
87.5	1.3
88.0	1.0
88.5	0.7
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

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-XX-L15-835-XXX-DIM-UNV-RW-WH-XX_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	656.17	N.A.	40.30
0-30	1161.59	N.A.	71.40
0-40	1383.97	N.A.	85.00
0-60	1561.73	N.A.	95.90
0-80	1624.39	N.A.	99.80
0-90	1627.84	N.A.	100.00
10-90	1447.39	N.A.	88.90
20-40	727.80	N.A.	44.70
20-50	830.55	N.A.	51.00
40-70	223.58	N.A.	13.70
60-80	62.65	N.A.	3.80
70-80	16.84	N.A.	1.00
80-90	3.46	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	1627.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	180.45
10-20	475.72
20-30	505.42
30-40	222.38
40-50	102.74
50-60	75.02
60-70	45.82
70-80	16.84
80-90	3.46
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	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	79
4	96	88	82	78	94	87	81	77	84	80	76	82	78	75	81	77	74	73
5	91	82	76	72	89	81	75	71	79	74	71	78	73	70	76	72	69	68
6	86	77	71	66	85	76	70	66	75	70	66	73	69	65	72	68	65	63
7	82	72	66	62	81	72	66	62	71	65	61	69	65	61	68	64	61	59
8	78	68	62	58	77	68	62	58	67	61	58	66	61	57	65	60	57	56
9	75	65	59	55	73	64	58	55	63	58	54	62	58	54	61	57	54	53
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50

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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	20.6	21.7	21.0	22.0	22.3	20.6	21.7	21.0	22.0	22.3
	3H	21.6	22.6	22.0	22.9	23.3	21.6	22.6	22.0	22.9	23.3
	4H	21.8	22.7	22.2	23.1	23.5	21.8	22.7	22.2	23.1	23.5
	6H	21.9	22.7	22.3	23.1	23.5	21.9	22.7	22.3	23.1	23.5
	8H	21.9	22.6	22.3	23.0	23.4	21.9	22.6	22.3	23.0	23.4
	12H	21.8	22.6	22.3	23.0	23.4	21.8	22.6	22.3	23.0	23.4

UGR Viewed Endwise

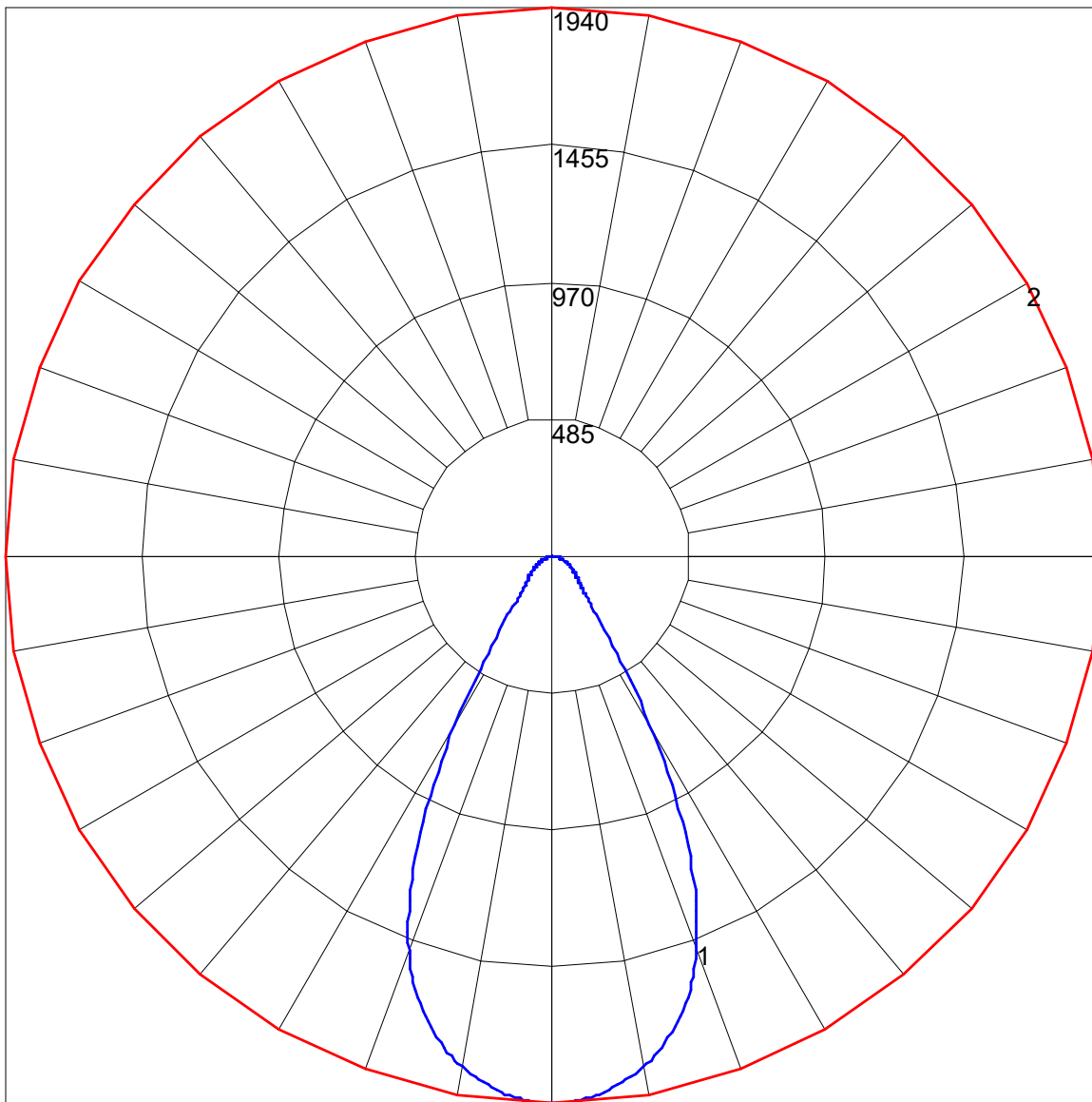
4H	2H	20.9	21.8	21.3	22.2	22.6	20.9	21.8	21.3	22.2	22.6
	3H	22.1	22.8	22.5	23.3	23.7	22.1	22.8	22.5	23.3	23.7
	4H	22.3	23.0	22.8	23.4	23.9	22.3	23.0	22.8	23.4	23.9
	6H	22.4	23.0	22.9	23.4	23.9	22.4	23.0	22.9	23.4	23.9
	8H	22.4	22.9	22.9	23.4	23.9	22.4	22.9	22.9	23.4	23.9
	12H	22.4	22.9	22.9	23.4	23.8	22.4	22.9	22.9	23.4	23.8

8H	4H	22.3	22.9	22.8	23.3	23.8	22.3	22.9	22.8	23.3	23.8
	6H	22.5	22.9	23.0	23.4	23.9	22.5	22.9	23.0	23.4	23.9
	8H	22.5	22.9	23.0	23.4	23.9	22.5	22.9	23.0	23.4	23.9
	12H	22.5	22.9	23.0	23.3	23.9	22.5	22.9	23.0	23.3	23.9

12H	4H	22.3	22.8	22.8	23.2	23.7	22.3	22.8	22.8	23.2	23.7
	6H	22.4	22.8	23.0	23.3	23.8	22.4	22.8	23.0	23.3	23.8
	8H	22.5	22.8	23.0	23.3	23.9	22.5	22.8	23.0	23.3	23.9

Maximum UGR = 23.9

POLAR GRAPH



Maximum Candela = 1940 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.)