



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L12-9DW-XXX-DIM-UNV-OM-OF-CS-XX_3000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13131414.30
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-L12-9DW-xxx-DIM-UNV-OM-OF-CS-xx
 [LUMINAIRE] Aluminum housing and reflector, no lens 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	1244
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	53
Total Luminaire Watts	23.3299
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.66
Spacing Criterion (90-270)	0.66
Spacing Criterion (Diagonal)	0.66
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	7788	7788	7788
55	2428	2428	2428
65	974	974	974
75	489	489	489
85	363	363	363

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-L12-9DW-XXX-DIM-UNV-OM-OF-CS-XX_3000K.IES****CANDELA TABULATION**

	<u>0</u>
0.0	2847.0
0.5	2845.0
1.0	2839.0
1.5	2834.0
2.0	2835.0
2.5	2842.0
3.0	2855.0
3.5	2869.0
4.0	2884.0
4.5	2897.0
5.0	2904.0
5.5	2903.0
6.0	2892.0
6.5	2872.0
7.0	2845.0
7.5	2810.0
8.0	2767.0
8.5	2716.0
9.0	2657.0
9.5	2594.0
10.0	2528.0
10.5	2461.0
11.0	2394.0
11.5	2329.0
12.0	2266.0
12.5	2205.0
13.0	2148.0
13.5	2094.0
14.0	2042.0
14.5	1991.0
15.0	1941.0
15.5	1891.0
16.0	1841.0
16.5	1792.0
17.0	1743.0
17.5	1693.0
18.0	1644.0
18.5	1595.0
19.0	1546.0
19.5	1498.0
20.0	1450.0
20.5	1403.0
21.0	1356.0
21.5	1309.0
22.0	1261.0
22.5	1208.0
23.0	1148.0
23.5	1080.0
24.0	1010.0
24.5	936.8
25.0	863.0
25.5	789.8
26.0	718.7
26.5	647.5

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27.0	577.2
27.5	509.2
28.0	444.1
28.5	382.6
29.0	325.1
29.5	272.5
30.0	225.3
30.5	183.6
31.0	147.6
31.5	118.3
32.0	97.4
32.5	85.2
33.0	78.0
33.5	72.0
34.0	66.3
34.5	60.8
35.0	55.4
35.5	50.8
36.0	47.0
36.5	43.7
37.0	40.9
37.5	38.4
38.0	36.1
38.5	33.9
39.0	32.0
39.5	30.2
40.0	28.6
40.5	27.1
41.0	25.7
41.5	24.4
42.0	23.2
42.5	22.1
43.0	21.0
43.5	20.0
44.0	19.1
44.5	18.2
45.0	17.4
45.5	16.6
46.0	15.8
46.5	15.1
47.0	14.4
47.5	13.6
48.0	12.5
48.5	11.2
49.0	10.3
49.5	9.7
50.0	9.1
50.5	8.6
51.0	8.1
51.5	7.6
52.0	7.1
52.5	6.6
53.0	6.0
53.5	5.4
54.0	5.0
54.5	4.7

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55.0	4.4
55.5	4.1
56.0	3.8
56.5	3.6
57.0	3.3
57.5	3.1
58.0	2.9
58.5	2.8
59.0	2.6
59.5	2.4
60.0	2.3
60.5	2.2
61.0	2.0
61.5	1.9
62.0	1.8
62.5	1.7
63.0	1.6
63.5	1.5
64.0	1.4
64.5	1.4
65.0	1.3
65.5	1.2
66.0	1.1
66.5	1.1
67.0	1.0
67.5	1.0
68.0	0.9
68.5	0.9
69.0	0.8
69.5	0.8
70.0	0.7
70.5	0.7
71.0	0.6
71.5	0.6
72.0	0.6
72.5	0.5
73.0	0.5
73.5	0.5
74.0	0.4
74.5	0.4
75.0	0.4
75.5	0.3
76.0	0.3
76.5	0.3
77.0	0.3
77.5	0.3
78.0	0.2
78.5	0.2
79.0	0.2
79.5	0.2
80.0	0.2
80.5	0.2
81.0	0.1
81.5	0.1
82.0	0.1
82.5	0.1

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-L12-9DW-XXX-DIM-UNV-OM-OF-CS-XX_3000K.IES****CANDELA TABULATION - (Cont.)**

83.0	0.1
83.5	0.1
84.0	0.1
84.5	0.1
85.0	0.1
85.5	0.1
86.0	0.0
86.5	0.0
87.0	0.0
87.5	0.0
88.0	0.0
88.5	0.0
89.0	0.0
89.5	0.0
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-L12-9DW-XXX-DIM-UNV-OM-OF-CS-XX_3000K.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

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Zone	Lumens	%Lamp	%Fixt
0-20	803.82	N.A.	64.60
0-30	1180.27	N.A.	94.90
0-40	1223.79	N.A.	98.40
0-60	1241.69	N.A.	99.90
0-80	1243.45	N.A.	100.00
0-90	1243.52	N.A.	100.00
10-90	977.74	N.A.	78.60
20-40	419.97	N.A.	33.80
20-50	433.55	N.A.	34.90
40-70	19.24	N.A.	1.50
60-80	1.75	N.A.	0.10
70-80	0.42	N.A.	0.00
80-90	0.07	N.A.	0.00
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	1243.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	265.78
10-20	538.04
20-30	376.45
30-40	43.51
40-50	13.58
50-60	4.32
60-70	1.33
70-80	0.42
80-90	0.07
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	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	104	102	99	101	99	97	98	97	95	96	94	93	91
3	106	101	97	94	104	100	96	93	97	94	91	95	92	90	93	90	89	87
4	102	96	92	88	100	95	91	88	93	89	87	91	88	86	89	87	85	84
5	98	92	87	84	97	91	87	83	89	85	83	88	84	82	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77
7	92	84	79	76	90	84	79	76	82	78	75	81	78	75	80	77	75	74
8	88	81	76	73	87	80	76	73	79	75	72	78	75	72	78	74	72	71
9	85	78	73	70	84	77	73	70	76	72	70	76	72	69	75	72	69	68
10	83	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	67	66

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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	0.8	0.8	0.8	0.9	1.2	0.8	0.8	0.8	0.9	1.2
	3H	0.8	0.8	0.8	1.1	1.5	0.8	0.8	0.8	1.1	1.5
	4H	0.8	0.8	0.8	1.1	1.5	0.8	0.8	0.8	1.1	1.5
	6H	0.8	0.8	0.8	1.0	1.4	0.8	0.8	0.8	1.0	1.4
	8H	0.8	0.8	0.8	0.9	1.3	0.8	0.8	0.8	0.9	1.3
	12H	0.8	0.8	0.8	0.9	1.3	0.8	0.8	0.8	0.9	1.3

UGR Viewed Endwise

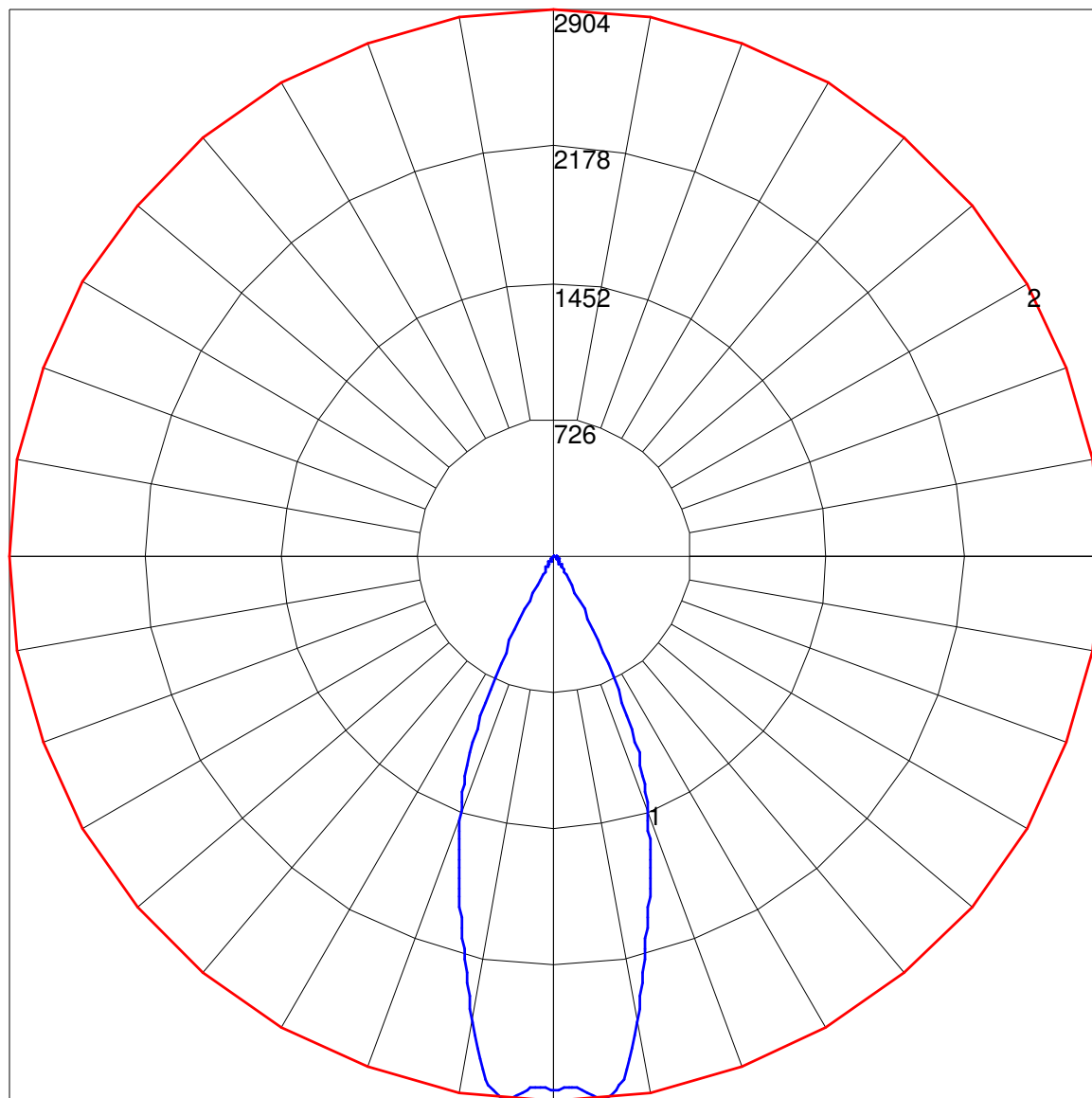
4H	2H	0.8	0.8	0.8	0.8	1.1	0.8	0.8	0.8	0.8	1.1
	3H	0.8	0.8	0.8	1.1	1.5	0.8	0.8	0.8	1.1	1.5
	4H	0.8	0.8	0.8	1.0	1.5	0.8	0.8	0.8	1.0	1.5
	6H	0.8	0.8	0.8	1.0	1.5	0.8	0.8	0.8	1.0	1.5
	8H	0.8	0.8	0.8	0.9	1.4	0.8	0.8	0.8	0.9	1.4
	12H	0.8	0.8	0.8	0.8	1.3	0.8	0.8	0.8	0.8	1.3
8H	4H	0.8	0.8	0.8	0.8	1.3	0.8	0.8	0.8	0.8	1.3
	6H	0.8	0.8	0.8	0.8	1.3	0.8	0.8	0.8	0.8	1.3
	8H	0.8	0.8	0.8	0.8	1.3	0.8	0.8	0.8	0.8	1.3
	12H	0.8	0.8	0.8	0.8	1.3	0.8	0.8	0.8	0.8	1.3
12H	4H	0.8	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	1.2
	6H	0.8	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	1.2
	8H	0.8	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	1.2

Maximum UGR = 1.5

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POLAR GRAPH



Maximum Candela = 2904 Located At Horizontal Angle = 0, Vertical Angle = 5

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)