



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13131414.29
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 25 JAN 2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-L12-9DW-xxx-DIM-UNV-OW-OF-CS-xx
 [LUMINAIRE] Aluminum housing and reflector, no lens enclosure
 [LAMP] One white LED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1239
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	53
Total Luminaire Watts	23.344
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.10
Spacing Criterion (Diagonal)	1.00
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	28242	28242	28242
55	9215	9215	9215
65	4568	4568	4568
75	1345	1345	1345
85	363	363	363

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CANDELA TABULATION

	<u>0</u>
0.0	1076.0
0.5	1076.0
1.0	1076.0
1.5	1076.0
2.0	1076.0
2.5	1077.0
3.0	1078.0
3.5	1080.0
4.0	1082.0
4.5	1084.0
5.0	1086.0
5.5	1087.0
6.0	1087.0
6.5	1089.0
7.0	1092.0
7.5	1095.0
8.0	1099.0
8.5	1103.0
9.0	1107.0
9.5	1111.0
10.0	1115.0
10.5	1118.0
11.0	1121.0
11.5	1124.0
12.0	1126.0
12.5	1128.0
13.0	1130.0
13.5	1131.0
14.0	1132.0
14.5	1132.0
15.0	1132.0
15.5	1130.0
16.0	1127.0
16.5	1122.0
17.0	1117.0
17.5	1111.0
18.0	1105.0
18.5	1099.0
19.0	1093.0
19.5	1089.0
20.0	1086.0
20.5	1085.0
21.0	1085.0
21.5	1087.0
22.0	1089.0
22.5	1090.0
23.0	1083.0
23.5	1069.0
24.0	1050.0
24.5	1029.0
25.0	1006.0
25.5	981.4
26.0	955.6
26.5	928.0

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CANDELA TABULATION - (Cont.)

27.0	899.2
27.5	869.1
28.0	837.2
28.5	803.6
29.0	769.3
29.5	736.5
30.0	703.5
30.5	670.0
31.0	637.5
31.5	607.6
32.0	582.8
32.5	565.9
33.0	553.0
33.5	539.1
34.0	523.6
34.5	506.4
35.0	487.4
35.5	466.8
36.0	445.1
36.5	422.2
37.0	397.8
37.5	372.0
38.0	344.8
38.5	316.2
39.0	286.2
39.5	255.6
40.0	224.9
40.5	195.1
41.0	167.5
41.5	143.1
42.0	122.6
42.5	106.2
43.0	93.4
43.5	83.3
44.0	75.3
44.5	68.7
45.0	63.1
45.5	57.9
46.0	53.1
46.5	48.8
47.0	45.0
47.5	41.7
48.0	38.7
48.5	36.1
49.0	33.8
49.5	31.8
50.0	30.0
50.5	28.3
51.0	26.8
51.5	25.4
52.0	24.0
52.5	22.7
53.0	21.4
53.5	20.1
54.0	18.9
54.5	17.8

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CANDELA TABULATION - (Cont.)

55.0	16.7
55.5	15.8
56.0	14.9
56.5	14.2
57.0	13.4
57.5	12.8
58.0	12.2
58.5	11.6
59.0	11.1
59.5	10.6
60.0	10.2
60.5	9.7
61.0	9.3
61.5	8.9
62.0	8.5
62.5	8.1
63.0	7.7
63.5	7.3
64.0	6.9
64.5	6.5
65.0	6.1
65.5	5.7
66.0	5.3
66.5	4.9
67.0	4.5
67.5	4.2
68.0	3.9
68.5	3.6
69.0	3.3
69.5	3.0
70.0	2.8
70.5	2.6
71.0	2.3
71.5	2.1
72.0	2.0
72.5	1.8
73.0	1.6
73.5	1.5
74.0	1.3
74.5	1.2
75.0	1.1
75.5	1.0
76.0	0.9
76.5	0.8
77.0	0.7
77.5	0.7
78.0	0.6
78.5	0.5
79.0	0.5
79.5	0.4
80.0	0.4
80.5	0.3
81.0	0.3
81.5	0.3
82.0	0.2
82.5	0.2

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CANDELA TABULATION - (Cont.)

83.0	0.2
83.5	0.2
84.0	0.1
84.5	0.1
85.0	0.1
85.5	0.1
86.0	0.1
86.5	0.1
87.0	0.1
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

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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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	420.96	N.A.	34.00
0-30	862.90	N.A.	69.70
0-40	1153.91	N.A.	93.20
0-60	1231.2	N.A.	99.40
0-80	1238.62	N.A.	100.00
0-90	1238.76	N.A.	100.00
10-90	1134.32	N.A.	91.60
20-40	732.95	N.A.	59.20
20-50	794.33	N.A.	64.10
40-70	83.39	N.A.	6.70
60-80	7.42	N.A.	0.60
70-80	1.32	N.A.	0.10
80-90	0.14	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	1238.76	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	104.44
10-20	316.52
20-30	441.95
30-40	291.00
40-50	61.38
50-60	15.91
60-70	6.10
70-80	1.32
80-90	0.14
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	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86
3	102	96	90	86	100	94	89	86	91	88	84	89	86	83	87	84	82	80
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74
5	92	83	77	73	90	82	77	72	80	75	72	79	74	71	77	73	71	69
6	87	78	72	67	85	77	71	67	75	70	67	74	70	66	73	69	66	64
7	82	73	67	62	81	72	66	62	71	66	62	70	65	62	69	64	61	60
8	78	68	62	58	77	68	62	58	67	62	58	66	61	57	65	60	57	56
9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52
10	71	61	55	51	70	60	55	51	59	54	51	59	54	50	58	53	50	49

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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	9.5	10.5	9.9	10.8	11.1	9.5	10.5	9.9	10.8	11.1
	3H	9.8	10.7	10.2	11.0	11.4	9.8	10.7	10.2	11.0	11.4
	4H	9.8	10.6	10.2	10.9	11.3	9.8	10.6	10.2	10.9	11.3
	6H	9.7	10.4	10.1	10.8	11.2	9.7	10.4	10.1	10.8	11.2
	8H	9.7	10.3	10.1	10.7	11.1	9.7	10.3	10.1	10.7	11.1
	12H	9.6	10.3	10.1	10.6	11.1	9.6	10.3	10.1	10.6	11.1

UGR Viewed Endwise

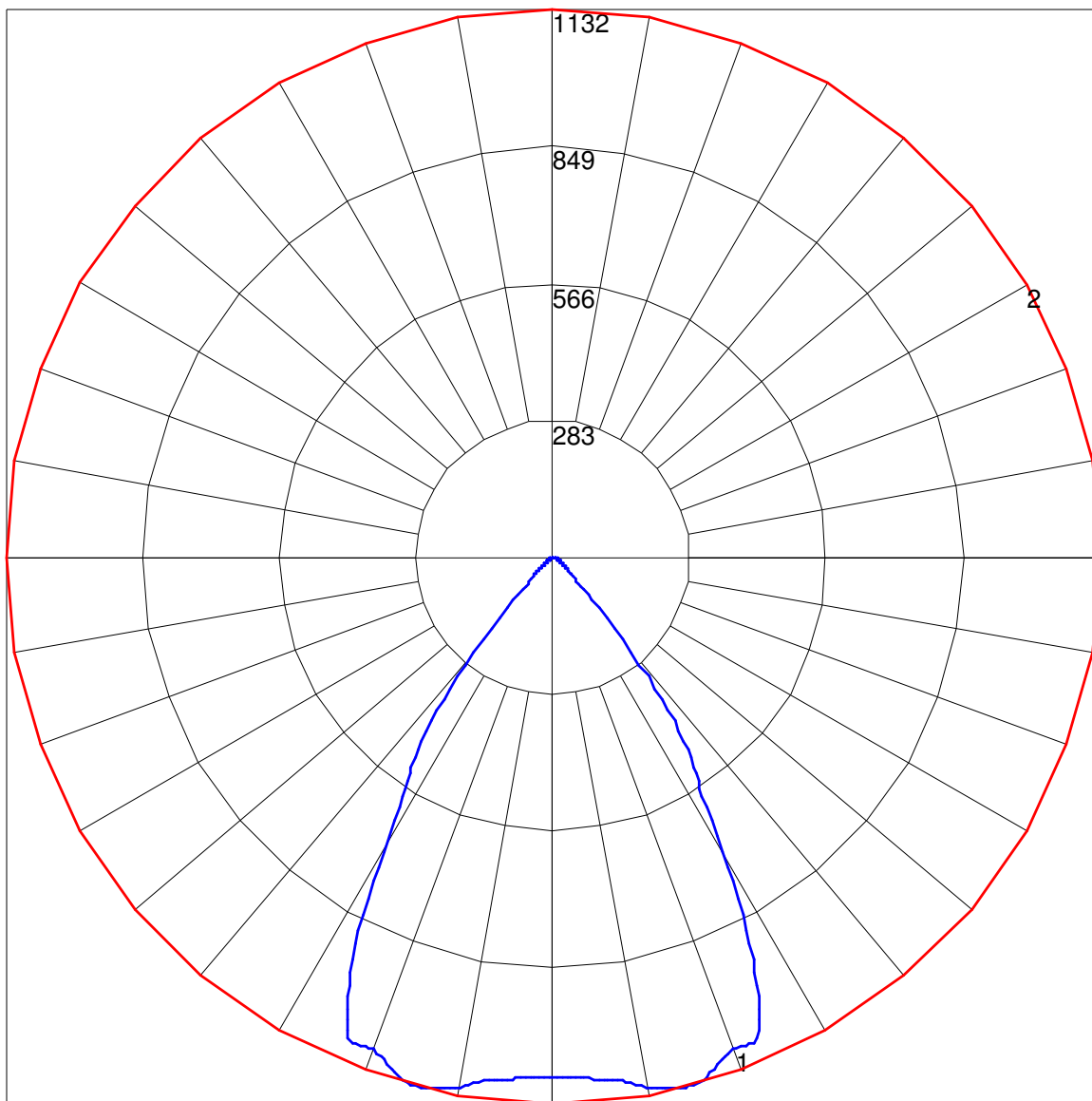
4H	2H	9.6	10.4	10.0	10.8	11.1	9.6	10.4	10.0	10.8	11.1
	3H	10.0	10.6	10.4	11.0	11.4	10.0	10.6	10.4	11.0	11.4
	4H	9.9	10.5	10.4	10.9	11.4	9.9	10.5	10.4	10.9	11.4
	6H	9.9	10.3	10.3	10.8	11.3	9.9	10.3	10.3	10.8	11.3
	8H	9.8	10.2	10.3	10.7	11.2	9.8	10.2	10.3	10.7	11.2
	12H	9.7	10.1	10.2	10.6	11.1	9.7	10.1	10.2	10.6	11.1

8H	4H	9.8	10.2	10.3	10.7	11.2	9.8	10.2	10.3	10.7	11.2
	6H	9.7	10.1	10.2	10.6	11.1	9.7	10.1	10.2	10.6	11.1
	8H	9.6	10.0	10.2	10.5	11.0	9.6	10.0	10.2	10.5	11.0
	12H	9.6	9.9	10.1	10.4	11.0	9.6	9.9	10.1	10.4	11.0

12H	4H	9.7	10.1	10.2	10.6	11.1	9.7	10.1	10.2	10.6	11.1
	6H	9.6	10.0	10.2	10.4	11.0	9.6	10.0	10.2	10.4	11.0
	8H	9.6	9.9	10.1	10.4	11.0	9.6	9.9	10.1	10.4	11.0

Maximum UGR = 11.4

POLAR GRAPH



Maximum Candela = 1132 Located At Horizontal Angle = 0, Vertical Angle = 14
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (14) (Through Max. Cd.)