



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L12-9DW-XXX-DIM-UNV-RW-WH-XX_3000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13257153.03
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-xx-L12-9DW-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	1284
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	55
Total Luminaire Watts	23.3
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	46030	46030	46030
55	36424	36424	36424
65	27228	27228	27228
75	14177	14177	14177
85	8591	8591	8591

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CANDELA TABULATION

	<u>0</u>
0.0	1530.059
0.5	1530.059
1.0	1529.270
1.5	1528.481
2.0	1528.481
2.5	1526.904
3.0	1524.538
3.5	1521.383
4.0	1518.228
4.5	1515.073
5.0	1510.341
5.5	1506.398
6.0	1501.666
6.5	1496.145
7.0	1490.624
7.5	1485.103
8.0	1479.582
8.5	1473.273
9.0	1466.175
9.5	1459.865
10.0	1452.767
10.5	1444.880
11.0	1436.204
11.5	1427.529
12.0	1418.065
12.5	1408.600
13.0	1398.347
13.5	1387.306
14.0	1375.475
14.5	1363.645
15.0	1350.237
15.5	1336.830
16.0	1321.844
16.5	1306.859
17.0	1291.085
17.5	1274.523
18.0	1257.172
18.5	1238.243
19.0	1218.526
19.5	1197.231
20.0	1175.148
20.5	1152.276
21.0	1127.827
21.5	1102.589
22.0	1074.984
22.5	1047.380
23.0	1018.199
23.5	988.229
24.0	956.681
24.5	925.133
25.0	892.797
25.5	858.883
26.0	824.181
26.5	789.479

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-9DW-XXX-DIM-UNV-RW-WH-XX_3000K.IES****CANDELA TABULATION - (Cont.)**

27.0	755.013
27.5	720.389
28.0	685.450
28.5	650.669
29.0	615.099
29.5	579.293
30.0	543.802
30.5	508.863
31.0	474.397
31.5	441.114
32.0	409.093
32.5	378.808
33.0	350.730
33.5	324.704
34.0	300.491
34.5	278.329
35.0	258.217
35.5	239.762
36.0	223.042
36.5	208.056
37.0	194.728
37.5	182.818
38.0	172.013
38.5	162.391
39.0	153.952
39.5	146.539
40.0	139.914
40.5	134.156
41.0	129.030
41.5	124.455
42.0	120.354
42.5	116.726
43.0	113.414
43.5	110.495
44.0	107.735
44.5	105.211
45.0	102.845
45.5	100.558
46.0	98.429
46.5	96.299
47.0	94.327
47.5	92.356
48.0	90.384
48.5	88.491
49.0	86.598
49.5	84.705
50.0	82.891
50.5	81.156
51.0	79.342
51.5	77.607
52.0	75.951
52.5	74.216
53.0	72.559
53.5	70.903
54.0	69.247
54.5	67.591

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55.0	66.013
55.5	64.436
56.0	62.859
56.5	61.281
57.0	59.704
57.5	58.205
58.0	56.628
58.5	55.129
59.0	53.631
59.5	52.211
60.0	50.713
60.5	49.214
61.0	47.716
61.5	46.296
62.0	44.798
62.5	43.378
63.0	41.958
63.5	40.539
64.0	39.119
64.5	37.699
65.0	36.359
65.5	35.018
66.0	33.677
66.5	32.257
67.0	30.996
67.5	29.734
68.0	28.393
68.5	27.131
69.0	25.869
69.5	24.607
70.0	23.424
70.5	22.162
71.0	20.979
71.5	19.717
72.0	18.534
72.5	17.351
73.0	16.168
73.5	14.985
74.0	13.881
74.5	12.698
75.0	11.594
75.5	10.568
76.0	9.543
76.5	8.754
77.0	8.045
77.5	7.414
78.0	6.940
78.5	6.546
79.0	6.231
79.5	5.915
80.0	5.521
80.5	5.205
81.0	4.890
81.5	4.574
82.0	4.180
82.5	3.865

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83.0	3.628
83.5	3.312
84.0	2.997
84.5	2.682
85.0	2.366
85.5	2.129
86.0	1.814
86.5	1.577
87.0	1.262
87.5	1.025
88.0	0.789
88.5	0.552
89.0	0.315
89.5	0.237
90.0	0.000
90.5	0.000
91.0	0.000
91.5	0.000
92.0	0.000
92.5	0.000
93.0	0.000
93.5	0.000
94.0	0.000
94.5	0.000
95.0	0.000
95.5	0.000
96.0	0.000
96.5	0.000
97.0	0.000
97.5	0.000
98.0	0.000
98.5	0.000
99.0	0.000
99.5	0.000
100.0	0.000
100.5	0.000
101.0	0.000
101.5	0.000
102.0	0.000
102.5	0.000
103.0	0.000
103.5	0.000
104.0	0.000
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-9DW-XXX-DIM-UNV-RW-WH-XX_3000K.IES****CANDELA TABULATION - (Cont.)**

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
117.5	0.000
118.0	0.000
118.5	0.000
119.0	0.000
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
133.0	0.000
133.5	0.000
134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L12-9DW-XXX-DIM-UNV-RW-WH-XX_3000K.IES****CANDELA TABULATION - (Cont.)**

139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
144.0	0.000
144.5	0.000
145.0	0.000
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
152.0	0.000
152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
155.0	0.000
155.5	0.000
156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
158.0	0.000
158.5	0.000
159.0	0.000
159.5	0.000
160.0	0.000
160.5	0.000
161.0	0.000
161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

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CANDELA TABULATION - (Cont.)

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	517.51	N.A.	40.30
0-30	916.13	N.A.	71.40
0-40	1091.53	N.A.	85.00
0-60	1231.72	N.A.	95.90
0-80	1281.14	N.A.	99.80
0-90	1283.86	N.A.	100.00
10-90	1141.54	N.A.	88.90
20-40	574.01	N.A.	44.70
20-50	655.04	N.A.	51.00
40-70	176.33	N.A.	13.70
60-80	49.42	N.A.	3.80
70-80	13.28	N.A.	1.00
80-90	2.73	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	1283.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	142.32
10-20	375.19
20-30	398.62
30-40	175.39
40-50	81.03
50-60	59.16
60-70	36.14
70-80	13.28
80-90	2.73
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	19.8	20.9	20.2	21.2	21.5	19.8	20.9	20.2	21.2	21.5
	3H	20.8	21.8	21.2	22.1	22.5	20.8	21.8	21.2	22.1	22.5
	4H	21.0	21.9	21.4	22.3	22.7	21.0	21.9	21.4	22.3	22.7
	6H	21.0	21.9	21.5	22.3	22.6	21.0	21.9	21.5	22.3	22.6
	8H	21.0	21.8	21.5	22.2	22.6	21.0	21.8	21.5	22.2	22.6
	12H	21.0	21.8	21.5	22.2	22.6	21.0	21.8	21.5	22.2	22.6

UGR Viewed Endwise

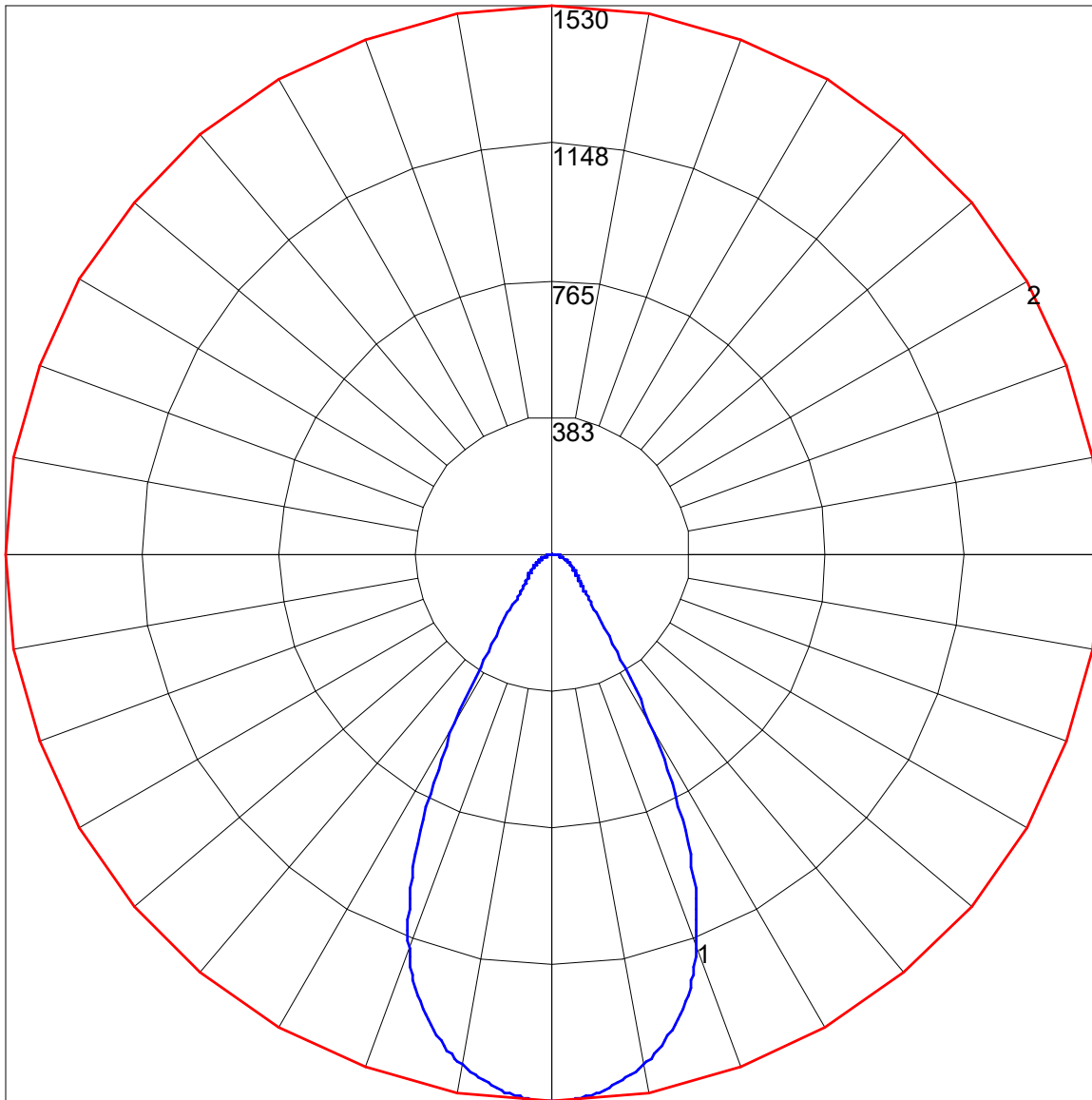
4H	2H	20.1	21.0	20.5	21.4	21.8	20.1	21.0	20.5	21.4	21.8
	3H	21.3	22.0	21.7	22.5	22.9	21.3	22.0	21.7	22.5	22.9
	4H	21.5	22.2	22.0	22.6	23.1	21.5	22.2	22.0	22.6	23.1
	6H	21.6	22.2	22.1	22.6	23.1	21.6	22.2	22.1	22.6	23.1
	8H	21.6	22.1	22.1	22.6	23.1	21.6	22.1	22.1	22.6	23.1
	12H	21.6	22.1	22.1	22.6	23.0	21.6	22.1	22.1	22.6	23.0

8H	4H	21.5	22.1	22.0	22.5	23.0	21.5	22.1	22.0	22.5	23.0
	6H	21.7	22.1	22.2	22.6	23.1	21.7	22.1	22.2	22.6	23.1
	8H	21.7	22.1	22.2	22.6	23.1	21.7	22.1	22.2	22.6	23.1
	12H	21.7	22.0	22.2	22.5	23.1	21.7	22.0	22.2	22.5	23.1

12H	4H	21.5	21.9	22.0	22.4	22.9	21.5	21.9	22.0	22.4	22.9
	6H	21.6	22.0	22.2	22.5	23.0	21.6	22.0	22.2	22.5	23.0
	8H	21.7	22.0	22.2	22.5	23.1	21.7	22.0	22.2	22.5	23.1

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 1530.059 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.)