

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 2DR-L9-830-DIM-UNV-OW-OF-SG_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM TEST 13131414.01
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 08-18-2023
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
[LUMCAT] 2DR-L9-830-DIM-UNV-OW-OF-SG
[LUMINAIRE] Aluminum housing and reflector, no enclosure
[OTHER] This test was performed using the calibrated photodetector method of absolute photometry.
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] Indoor, Downlight
[SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	838
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	78
Total Luminaire Watts	10.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.04
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	22729	22729	22729
55	6469	6469	6469
65	2935	2935	2935
75	909	909	909
85	247	247	247

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CANDELA TABULATION

	<u>0</u>
0.0	679.462
0.5	679.462
1.0	679.462
1.5	679.800
2.0	680.138
2.5	680.476
3.0	680.814
3.5	681.827
4.0	683.179
4.5	684.868
5.0	686.895
5.5	689.260
6.0	691.288
6.5	693.991
7.0	696.694
7.5	699.397
8.0	702.437
8.5	704.802
9.0	706.830
9.5	708.181
10.0	709.533
10.5	710.546
11.0	711.222
11.5	711.560
12.0	711.222
12.5	710.884
13.0	709.871
13.5	708.857
14.0	707.505
14.5	706.492
15.0	705.140
15.5	703.789
16.0	702.099
16.5	701.086
17.0	699.734
17.5	698.721
18.0	698.045
18.5	697.031
19.0	695.342
19.5	692.301
20.0	689.260
20.5	685.206
21.0	680.476
21.5	675.408
22.0	670.339
22.5	664.258
23.0	657.838
23.5	650.743
24.0	643.648
24.5	636.214
25.0	628.105
25.5	619.321
26.0	609.860
26.5	599.386

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CANDELA TABULATION - (Cont.)

27.0	588.236
27.5	575.397
28.0	563.234
28.5	550.395
29.0	537.893
29.5	525.392
30.0	512.215
30.5	498.700
31.0	484.847
31.5	470.657
32.0	457.142
32.5	442.951
33.0	428.423
33.5	413.894
34.0	398.690
34.5	383.486
35.0	367.943
35.5	351.725
36.0	334.933
36.5	317.330
37.0	298.511
37.5	278.542
38.0	257.898
38.5	236.849
39.0	215.901
39.5	195.595
40.0	176.268
40.5	158.091
41.0	141.129
41.5	125.283
42.0	110.484
42.5	96.902
43.0	84.637
43.5	73.825
44.0	64.703
44.5	57.100
45.0	50.782
45.5	45.545
46.0	41.187
46.5	37.470
47.0	34.328
47.5	31.625
48.0	29.260
48.5	27.165
49.0	25.307
49.5	23.651
50.0	22.097
50.5	20.712
51.0	19.428
51.5	18.245
52.0	17.164
52.5	16.117
53.0	15.137
53.5	14.191
54.0	13.312
54.5	12.468

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CANDELA TABULATION - (Cont.)

55.0	11.724
55.5	11.048
56.0	10.440
56.5	9.866
57.0	9.359
57.5	8.886
58.0	8.447
58.5	8.041
59.0	7.670
59.5	7.264
60.0	6.926
60.5	6.555
61.0	6.251
61.5	5.913
62.0	5.609
62.5	5.305
63.0	5.034
63.5	4.730
64.0	4.460
64.5	4.190
65.0	3.919
65.5	3.683
66.0	3.446
66.5	3.176
67.0	2.973
67.5	2.737
68.0	2.534
68.5	2.365
69.0	2.162
69.5	1.993
70.0	1.825
70.5	1.689
71.0	1.554
71.5	1.419
72.0	1.284
72.5	1.183
73.0	1.081
73.5	0.980
74.0	0.912
74.5	0.811
75.0	0.743
75.5	0.676
76.0	0.608
76.5	0.574
77.0	0.507
77.5	0.439
78.0	0.405
78.5	0.372
79.0	0.338
79.5	0.304
80.0	0.270
80.5	0.237
81.0	0.203
81.5	0.203
82.0	0.169
82.5	0.135

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CANDELA TABULATION - (Cont.)

83.0	0.135
83.5	0.101
84.0	0.101
84.5	0.101
85.0	0.068
85.5	0.068
86.0	0.068
86.5	0.034
87.0	0.034
87.5	0.034
88.0	0.034
88.5	0.034
89.0	0.034
89.5	0.034
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

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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
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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

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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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	265.68	N.A.	31.70
0-30	549.22	N.A.	65.60
0-40	770.35	N.A.	92.00
0-60	832.57	N.A.	99.40
0-80	837.46	N.A.	100.00
0-90	837.57	N.A.	100.00
10-90	771.14	N.A.	92.10
20-40	504.67	N.A.	60.30
20-50	555.63	N.A.	66.30
40-70	66.22	N.A.	7.90
60-80	4.90	N.A.	0.60
70-80	0.89	N.A.	0.10
80-90	0.11	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	837.57	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	66.43
10-20	199.25
20-30	283.55
30-40	221.13
40-50	50.96
50-60	11.26
60-70	4.01
70-80	0.89
80-90	0.11
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	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	107	102	98	95	105	101	97	94	97	94	91	94	92	90	92	89	88	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	79
4	96	88	82	78	94	87	82	78	85	80	77	83	79	76	81	78	75	73
5	91	82	76	72	89	81	76	71	79	74	71	78	73	70	76	72	69	68
6	86	77	70	66	85	76	70	66	74	69	65	73	68	65	72	68	64	63
7	81	72	65	61	80	71	65	61	70	64	61	69	64	60	67	63	60	58
8	77	67	61	57	76	67	61	57	66	60	56	64	60	56	63	59	56	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	69	59	53	49	68	59	53	49	58	53	49	57	52	49	57	52	49	47

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UGR TABLE - CORRECTED

Reflectances

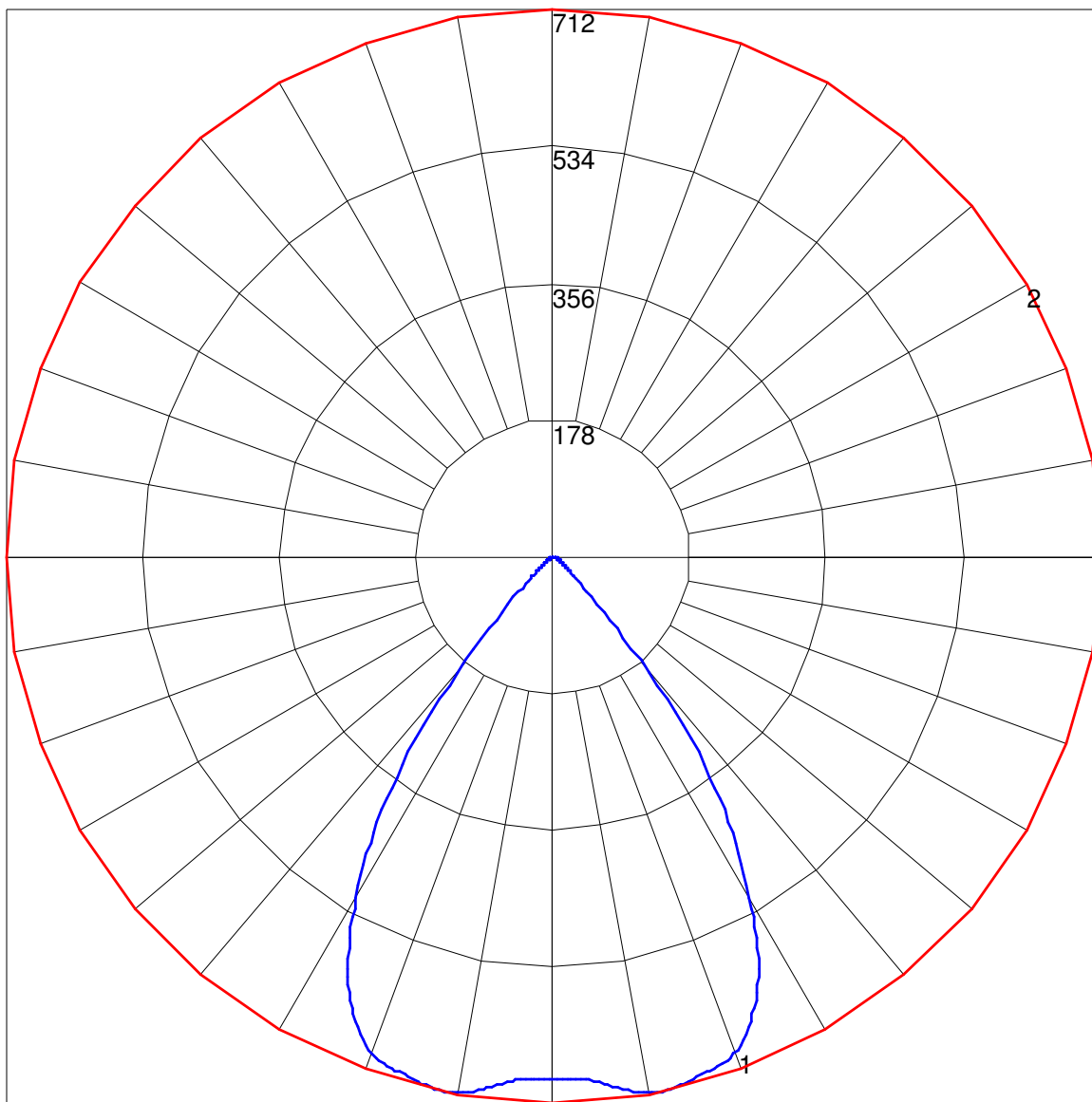
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

X=2H	Y=2H	8.3	9.3	8.7	9.6	9.9	8.3	9.3	8.7	9.6	9.9
	3H	8.6	9.4	9.0	9.8	10.1	8.6	9.4	9.0	9.8	10.1
	4H	8.5	9.3	8.9	9.7	10.1	8.5	9.3	8.9	9.7	10.1
	6H	8.5	9.2	8.9	9.5	9.9	8.5	9.2	8.9	9.5	9.9
	8H	8.4	9.1	8.8	9.5	9.9	8.4	9.1	8.8	9.5	9.9
	12H	8.3	9.0	8.8	9.4	9.8	8.3	9.0	8.8	9.4	9.8
4H	2H	8.3	9.1	8.7	9.5	9.9	8.3	9.1	8.7	9.5	9.9
	3H	8.7	9.3	9.1	9.7	10.1	8.7	9.3	9.1	9.7	10.1
	4H	8.6	9.2	9.1	9.6	10.1	8.6	9.2	9.1	9.6	10.1
	6H	8.5	9.0	9.0	9.5	10.0	8.5	9.0	9.0	9.5	10.0
	8H	8.5	8.9	9.0	9.4	9.9	8.5	8.9	9.0	9.4	9.9
	12H	8.4	8.8	8.9	9.3	9.8	8.4	8.8	8.9	9.3	9.8
8H	4H	8.5	8.9	9.0	9.4	9.9	8.5	8.9	9.0	9.4	9.9
	6H	8.4	8.8	8.9	9.3	9.8	8.4	8.8	8.9	9.3	9.8
	8H	8.3	8.7	8.9	9.2	9.7	8.3	8.7	8.9	9.2	9.7
	12H	8.3	8.6	8.8	9.1	9.6	8.3	8.6	8.8	9.1	9.6
12H	4H	8.4	8.8	8.9	9.3	9.8	8.4	8.8	8.9	9.3	9.8
	6H	8.3	8.7	8.9	9.1	9.7	8.3	8.7	8.9	9.1	9.7
	8H	8.3	8.6	8.8	9.1	9.6	8.3	8.6	8.8	9.1	9.6

Maximum UGR = 10.1

POLAR GRAPH



Maximum Candela = 711.56 Located At Horizontal Angle = 0, Vertical Angle = 11.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (11.5) (Through Max. Cd.)