



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-L12-9DW-DIM-UNV-LM-OF-WH_3000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.09

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 17 SEP 2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] V4DR-L12-9DW-DIM-UNV-LM-OF-WH 3000k

[LUMINAIRE] Black formed aluminum housing, white reflector, clear plas

[MORE] tic optic, clear glass patterned enclosure

[LAMP] One white LED

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight

[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1213
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	52
Total Luminaire Watts	23.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.54
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	9204	9204	9204
55	7174	7174	7174
65	5996	5996	5996
75	4824	4824	4824
85	2882	2882	2882

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CANDELA TABULATION

	<u>0</u>
0.0	3138.654
0.5	3137.302
1.0	3132.569
1.5	3125.131
2.0	3115.665
2.5	3102.818
3.0	3087.943
3.5	3070.363
4.0	3050.079
4.5	3028.443
5.0	3004.101
5.5	2977.056
6.0	2947.305
6.5	2914.174
7.0	2878.339
7.5	2839.123
8.0	2796.526
8.5	2750.548
9.0	2701.866
9.5	2649.127
10.0	2592.331
10.5	2531.478
11.0	2467.920
11.5	2400.982
12.0	2329.987
12.5	2256.288
13.0	2179.208
13.5	2099.423
14.0	2016.257
14.5	1930.387
15.0	1843.841
15.5	1755.942
16.0	1668.044
16.5	1579.469
17.0	1491.571
17.5	1406.377
18.0	1321.859
18.5	1240.722
19.0	1162.965
19.5	1087.913
20.0	1016.918
20.5	948.628
21.0	885.071
21.5	824.894
22.0	768.098
22.5	715.359
23.0	665.595
23.5	619.211
24.0	576.141
24.5	535.911
25.0	498.588
25.5	463.901
26.0	431.379
26.5	401.358

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CANDELA TABULATION - (Cont.)

27.0	373.366
27.5	347.740
28.0	323.872
28.5	301.830
29.0	281.613
29.5	262.749
30.0	245.237
30.5	229.077
31.0	214.134
31.5	200.409
32.0	187.697
32.5	176.000
33.0	165.249
33.5	155.310
34.0	146.250
34.5	137.865
35.0	130.293
35.5	123.261
36.0	116.837
36.5	110.955
37.0	105.546
37.5	100.610
38.0	96.147
38.5	92.023
39.0	88.237
39.5	84.788
40.0	81.610
40.5	78.635
41.0	75.863
41.5	73.361
42.0	70.995
42.5	68.764
43.0	66.735
43.5	64.774
44.0	62.949
44.5	61.259
45.0	59.568
45.5	58.013
46.0	56.593
46.5	55.173
47.0	53.821
47.5	52.604
48.0	51.319
48.5	50.170
49.0	49.020
49.5	47.871
50.0	46.857
50.5	45.842
51.0	44.896
51.5	43.882
52.0	42.935
52.5	42.056
53.0	41.109
53.5	40.230
54.0	39.351
54.5	38.473

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CANDELA TABULATION - (Cont.)

55.0	37.661
55.5	36.850
56.0	36.038
56.5	35.227
57.0	34.348
57.5	33.604
58.0	32.861
58.5	32.184
59.0	31.441
59.5	30.697
60.0	29.953
60.5	29.209
61.0	28.601
61.5	27.857
62.0	27.181
62.5	26.505
63.0	25.829
63.5	25.220
64.0	24.544
64.5	23.868
65.0	23.192
65.5	22.583
66.0	21.975
66.5	21.366
67.0	20.690
67.5	20.081
68.0	19.473
68.5	18.864
69.0	18.256
69.5	17.647
70.0	17.039
70.5	16.498
71.0	15.957
71.5	15.281
72.0	14.740
72.5	14.199
73.0	13.658
73.5	13.050
74.0	12.509
74.5	11.968
75.0	11.427
75.5	10.886
76.0	10.345
76.5	9.804
77.0	9.263
77.5	8.857
78.0	8.317
78.5	7.843
79.0	7.370
79.5	6.897
80.0	6.423
80.5	5.950
81.0	5.477
81.5	5.139
82.0	4.598
82.5	4.260

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CANDELA TABULATION - (Cont.)

83.0	3.786
83.5	3.448
84.0	3.043
84.5	2.637
85.0	2.299
85.5	1.893
86.0	1.623
86.5	1.285
87.0	1.082
87.5	0.879
88.0	0.676
88.5	0.541
89.0	0.406
89.5	0.270
90.0	0.203
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
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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

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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	767.14	N.A.	63.20
0-30	1007.54	N.A.	83.10
0-40	1094.19	N.A.	90.20
0-60	1174.98	N.A.	96.90
0-80	1210.19	N.A.	99.80
0-90	1213.05	N.A.	100.00
10-90	939.13	N.A.	77.40
20-40	327.05	N.A.	27.00
20-50	373.98	N.A.	30.80
40-70	103.85	N.A.	8.60
60-80	35.22	N.A.	2.90
70-80	12.15	N.A.	1.00
80-90	2.86	N.A.	0.20
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1213.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	273.93
10-20	493.22
20-30	240.39
30-40	86.66
40-50	46.93
50-60	33.85
60-70	23.06
70-80	12.15
80-90	2.86
90-100	0.01
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	108	108	108	108	106	106	106	106	101	101	101	97	97	97	93	93	93	91
1	104	101	99	97	101	99	97	96	96	94	93	92	91	90	89	88	87	86
2	99	95	92	89	97	93	90	88	90	88	86	88	86	84	85	84	82	81
3	95	89	85	82	93	88	84	81	86	83	80	84	81	79	82	80	78	76
4	91	85	80	77	89	84	80	76	82	78	75	80	77	75	78	76	74	72
5	87	81	76	72	86	80	75	72	78	74	71	77	73	71	75	73	70	69
6	84	77	72	69	83	76	72	68	75	71	68	74	70	68	72	69	67	66
7	81	73	69	65	80	73	68	65	72	68	65	71	67	65	70	67	64	63
8	78	70	66	63	77	70	65	62	69	65	62	68	65	62	67	64	62	61
9	75	68	63	60	74	67	63	60	66	62	60	66	62	59	65	62	59	58
10	73	65	61	58	72	65	60	58	64	60	57	63	60	57	63	59	57	56

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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

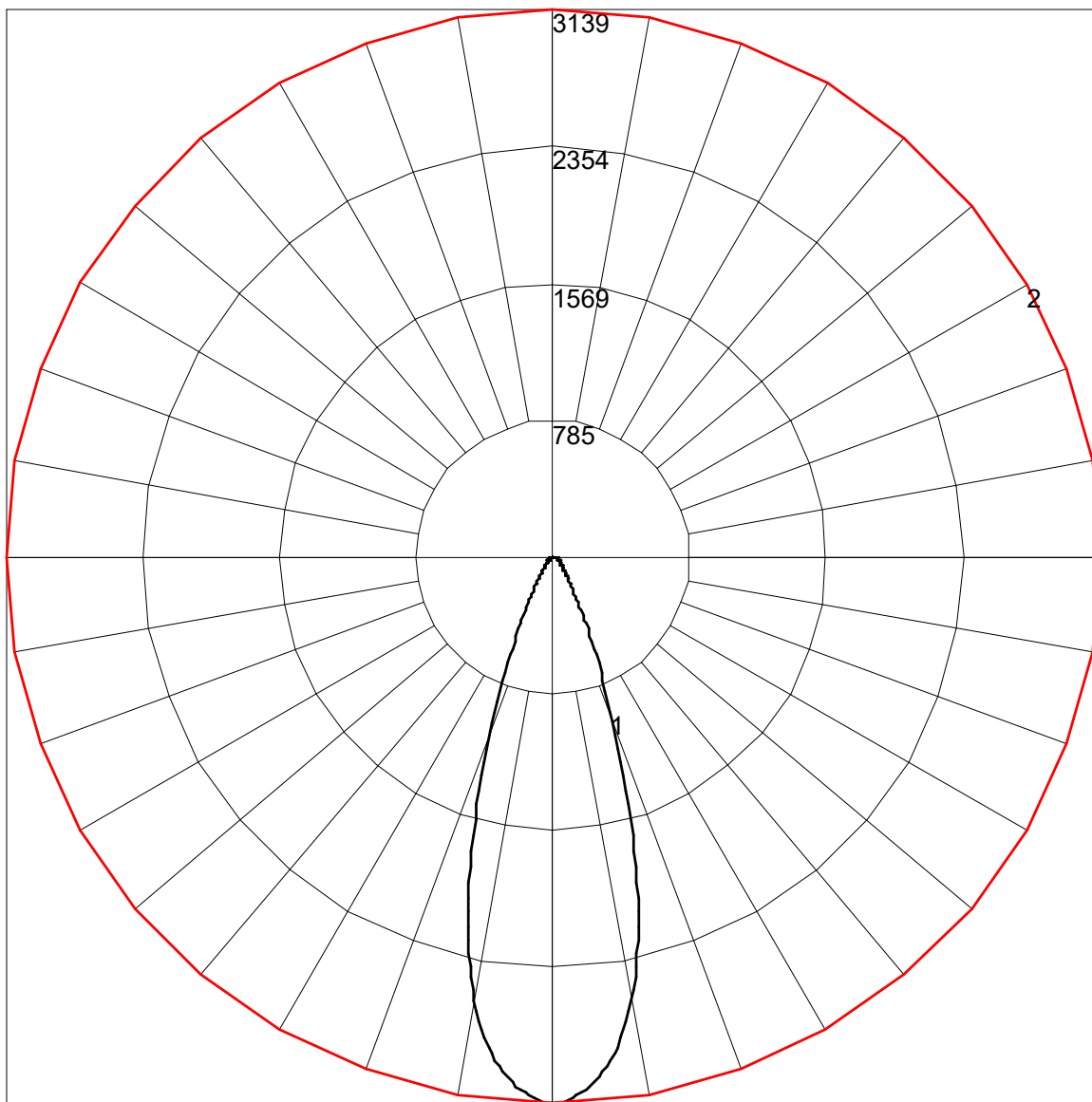
X=2H	Y=2H	12.9	14.0	13.3	14.3	14.6	12.9	14.0	13.3	14.3	14.6
	3H	14.4	15.3	14.8	15.6	16.0	14.4	15.3	14.8	15.6	16.0
	4H	14.9	15.7	15.3	16.1	16.5	14.9	15.7	15.3	16.1	16.5
	6H	15.2	16.0	15.6	16.4	16.8	15.2	16.0	15.6	16.4	16.8
	8H	15.3	16.0	15.7	16.4	16.8	15.3	16.0	15.7	16.4	16.8
	12H	15.3	16.0	15.8	16.4	16.8	15.3	16.0	15.8	16.4	16.8

UGR Viewed Endwise

4H	2H	13.4	14.2	13.8	14.6	15.0	13.4	14.2	13.8	14.6	15.0
	3H	15.0	15.7	15.4	16.1	16.5	15.0	15.7	15.4	16.1	16.5
	4H	15.6	16.3	16.1	16.7	17.1	15.6	16.3	16.1	16.7	17.1
	6H	16.1	16.6	16.6	17.1	17.5	16.1	16.6	16.6	17.1	17.5
	8H	16.2	16.7	16.7	17.1	17.6	16.2	16.7	16.7	17.1	17.6
	12H	16.2	16.6	16.7	17.1	17.6	16.2	16.6	16.7	17.1	17.6
8H	4H	15.8	16.3	16.3	16.7	17.2	15.8	16.3	16.3	16.7	17.2
	6H	16.3	16.7	16.9	17.2	17.7	16.3	16.7	16.9	17.2	17.7
	8H	16.5	16.8	17.0	17.4	17.9	16.5	16.8	17.0	17.4	17.9
	12H	16.6	16.9	17.1	17.4	18.0	16.6	16.9	17.1	17.4	18.0
12H	4H	15.8	16.2	16.3	16.7	17.2	15.8	16.2	16.3	16.7	17.2
	6H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7
	8H	16.5	16.8	17.1	17.3	17.9	16.5	16.8	17.1	17.3	17.9

Maximum UGR = 18.0

POLAR GRAPH



Maximum Candela = 3138.654 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)