



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-LM-OF-WH_4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.09

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 20 SEP 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-L9-8TW-DIM-UNV-LM-OF-WH 4000k

[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	1045
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	72
Total Luminaire Watts	14.6
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	7930	7930	7930
55	6180	6180	6180
65	5166	5166	5166
75	4156	4156	4156
85	2482	2482	2482

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CANDELA TABULATION

	<u>0</u>
0.0	2703.952
0.5	2702.787
1.0	2698.709
1.5	2692.302
2.0	2684.147
2.5	2673.080
3.0	2660.265
3.5	2645.120
4.0	2627.645
4.5	2609.005
5.0	2588.035
5.5	2564.735
6.0	2539.105
6.5	2510.563
7.0	2479.690
7.5	2445.906
8.0	2409.208
8.5	2369.599
9.0	2327.659
9.5	2282.224
10.0	2233.294
10.5	2180.869
11.0	2126.115
11.5	2068.447
12.0	2007.285
12.5	1943.793
13.0	1877.388
13.5	1808.654
14.0	1737.007
14.5	1663.029
15.0	1588.470
15.5	1512.745
16.0	1437.021
16.5	1360.713
17.0	1284.989
17.5	1211.594
18.0	1138.782
18.5	1068.882
19.0	1001.895
19.5	937.238
20.0	876.076
20.5	817.244
21.0	762.489
21.5	710.647
22.0	661.717
22.5	616.282
23.0	573.410
23.5	533.451
24.0	496.346
24.5	461.687
25.0	429.533
25.5	399.651
26.0	371.633
26.5	345.770

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CANDELA TABULATION - (Cont.)

27.0	321.655
27.5	299.578
28.0	279.016
28.5	260.027
29.0	242.610
29.5	226.358
30.0	211.272
30.5	197.350
31.0	184.477
31.5	172.652
32.0	161.701
32.5	151.624
33.0	142.362
33.5	133.800
34.0	125.994
34.5	118.771
35.0	112.247
35.5	106.189
36.0	100.656
36.5	95.588
37.0	90.928
37.5	86.676
38.0	82.831
38.5	79.278
39.0	76.016
39.5	73.045
40.0	70.307
40.5	67.744
41.0	65.356
41.5	63.201
42.0	61.162
42.5	59.240
43.0	57.492
43.5	55.803
44.0	54.230
44.5	52.774
45.0	51.318
45.5	49.978
46.0	48.755
46.5	47.532
47.0	46.367
47.5	45.318
48.0	44.212
48.5	43.221
49.0	42.231
49.5	41.241
50.0	40.367
50.5	39.493
51.0	38.678
51.5	37.804
52.0	36.989
52.5	36.231
53.0	35.416
53.5	34.659
54.0	33.901
54.5	33.144

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CANDELA TABULATION - (Cont.)

55.0	32.445
55.5	31.746
56.0	31.047
56.5	30.348
57.0	29.591
57.5	28.950
58.0	28.309
58.5	27.727
59.0	27.086
59.5	26.445
60.0	25.805
60.5	25.164
61.0	24.640
61.5	23.999
62.0	23.416
62.5	22.834
63.0	22.251
63.5	21.727
64.0	21.145
64.5	20.562
65.0	19.980
65.5	19.455
66.0	18.931
66.5	18.407
67.0	17.824
67.5	17.300
68.0	16.776
68.5	16.252
69.0	15.727
69.5	15.203
70.0	14.679
70.5	14.213
71.0	13.747
71.5	13.164
72.0	12.698
72.5	12.232
73.0	11.766
73.5	11.242
74.0	10.776
74.5	10.310
75.0	9.844
75.5	9.378
76.0	8.912
76.5	8.446
77.0	7.980
77.5	7.631
78.0	7.165
78.5	6.757
79.0	6.349
79.5	5.941
80.0	5.534
80.5	5.126
81.0	4.718
81.5	4.427
82.0	3.961
82.5	3.670

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CANDELA TABULATION - (Cont.)

83.0	3.262
83.5	2.971
84.0	2.621
84.5	2.272
85.0	1.980
85.5	1.631
86.0	1.398
86.5	1.107
87.0	0.932
87.5	0.757
88.0	0.582
88.5	0.466
89.0	0.349
89.5	0.233
90.0	0.175
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
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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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	660.90	N.A.	63.20
0-30	867.99	N.A.	83.10
0-40	942.65	N.A.	90.20
0-60	1012.24	N.A.	96.90
0-80	1042.58	N.A.	99.80
0-90	1045.05	N.A.	100.00
10-90	809.06	N.A.	77.40
20-40	281.75	N.A.	27.00
20-50	322.18	N.A.	30.80
40-70	89.46	N.A.	8.60
60-80	30.34	N.A.	2.90
70-80	10.47	N.A.	1.00
80-90	2.46	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	1045.05	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	235.99
10-20	424.91
20-30	207.10
30-40	74.65
40-50	40.43
50-60	29.16
60-70	19.87
70-80	10.47
80-90	2.46
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 RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	68	68	68	68	66	66	66	66	63	63	63	60	60	60	58	58	58	57
1	65	63	62	61	63	62	61	60	60	59	58	58	57	56	56	55	55	54
2	62	59	57	55	61	58	56	55	57	55	54	55	54	52	53	52	51	50
3	59	56	53	51	58	55	53	51	54	52	50	52	51	49	51	50	49	48
4	57	53	50	48	56	52	50	48	51	49	47	50	48	47	49	47	46	45
5	55	50	47	45	54	50	47	45	49	46	45	48	46	44	47	45	44	43
6	52	48	45	43	52	48	45	43	47	44	42	46	44	42	45	43	42	41
7	50	46	43	41	50	46	43	41	45	42	41	44	42	40	44	42	40	39
8	49	44	41	39	48	44	41	39	43	41	39	43	40	39	42	40	39	38
9	47	42	39	37	46	42	39	37	41	39	37	41	39	37	41	39	37	36
10	45	41	38	36	45	40	38	36	40	38	36	40	37	36	39	37	36	35

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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

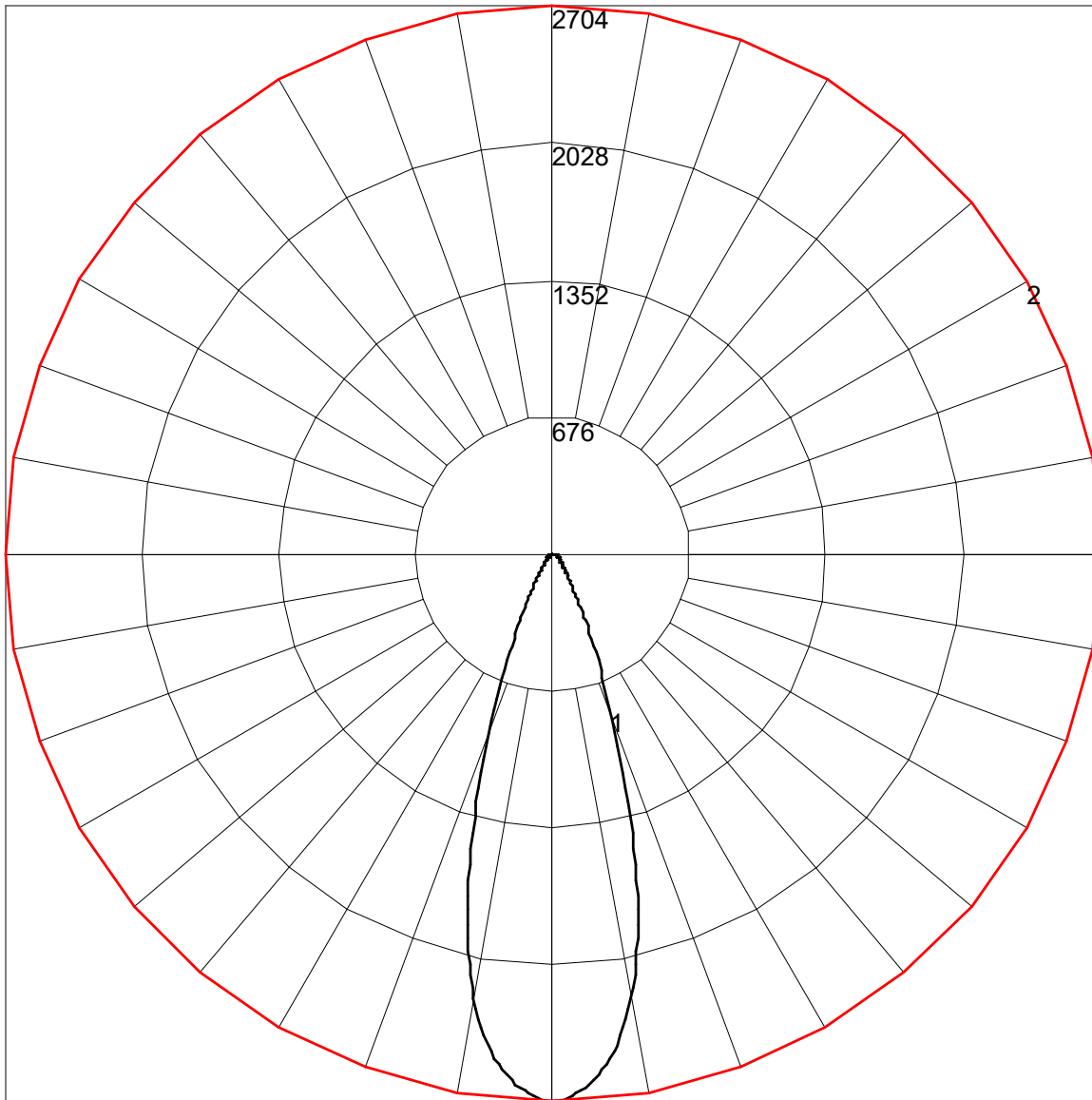
X=2H	Y=2H	14.0	15.1	14.4	15.4	15.7	14.0	15.1	14.4	15.4	15.7
	3H	15.5	16.4	15.9	16.7	17.1	15.5	16.4	15.9	16.7	17.1
	4H	16.0	16.8	16.4	17.2	17.6	16.0	16.8	16.4	17.2	17.6
	6H	16.3	17.1	16.7	17.5	17.9	16.3	17.1	16.7	17.5	17.9
	8H	16.4	17.1	16.9	17.5	17.9	16.4	17.1	16.9	17.5	17.9
	12H	16.4	17.1	16.9	17.5	17.9	16.4	17.1	16.9	17.5	17.9

UGR Viewed Endwise

4H	2H	14.5	15.3	14.9	15.7	16.1	14.5	15.3	14.9	15.7	16.1
	3H	16.1	16.8	16.5	17.2	17.6	16.1	16.8	16.5	17.2	17.6
	4H	16.8	17.4	17.2	17.8	18.2	16.8	17.4	17.2	17.8	18.2
	6H	17.2	17.7	17.7	18.2	18.6	17.2	17.7	17.7	18.2	18.6
	8H	17.3	17.8	17.8	18.2	18.7	17.3	17.8	17.8	18.2	18.7
	12H	17.3	17.8	17.8	18.2	18.7	17.3	17.8	17.8	18.2	18.7
8H	4H	16.9	17.4	17.4	17.9	18.3	16.9	17.4	17.4	17.9	18.3
	6H	17.4	17.8	18.0	18.3	18.8	17.4	17.8	18.0	18.3	18.8
	8H	17.6	18.0	18.1	18.5	19.0	17.6	18.0	18.1	18.5	19.0
	12H	17.7	18.0	18.2	18.5	19.1	17.7	18.0	18.2	18.5	19.1
12H	4H	16.9	17.3	17.4	17.8	18.3	16.9	17.3	17.4	17.8	18.3
	6H	17.5	17.8	18.0	18.3	18.8	17.5	17.8	18.0	18.3	18.8
	8H	17.6	18.0	18.2	18.4	19.0	17.6	18.0	18.2	18.4	19.0

Maximum UGR = 19.1

POLAR GRAPH



Maximum Candela = 2703.952 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.)