



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.10

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 20 SEP 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-L9-8TW-DIM-UNV-LN-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	1069
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	73
Total Luminaire Watts	14.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.44
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	7020	7020	7020
55	5266	5266	5266
65	4357	4357	4357
75	3545	3545	3545
85	1974	1974	1974

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CANDELA TABULATION

	<u>0</u>
0.0	4015.311
0.5	4010.645
1.0	3997.231
1.5	3976.236
2.0	3946.493
2.5	3909.752
3.0	3865.429
3.5	3814.108
4.0	3755.788
4.5	3691.636
5.0	3622.236
5.5	3547.003
6.0	3466.522
6.5	3379.626
7.0	3288.064
7.5	3192.420
8.0	3090.943
8.5	2986.551
9.0	2878.660
9.5	2768.436
10.0	2656.462
10.5	2542.738
11.0	2426.682
11.5	2310.626
12.0	2195.736
12.5	2081.430
13.0	1968.873
13.5	1858.065
14.0	1750.174
14.5	1645.782
15.0	1545.472
15.5	1448.661
16.0	1355.933
16.5	1267.287
17.0	1183.890
17.5	1103.992
18.0	1028.759
18.5	958.192
19.0	892.291
19.5	831.056
20.0	773.319
20.5	718.499
21.0	667.177
21.5	620.521
22.0	575.557
22.5	533.742
23.0	494.668
23.5	458.509
24.0	424.859
24.5	393.366
25.0	364.381
25.5	337.671
26.0	312.885
26.5	290.140

IES INDOOR REPORT**PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-LN-OF-WH_4000K.IES****CANDELA TABULATION - (Cont.)**

27.0	269.145
27.5	249.900
28.0	232.287
28.5	216.133
29.0	201.320
29.5	187.673
30.0	175.251
30.5	163.820
31.0	153.322
31.5	143.758
32.0	135.068
32.5	126.962
33.0	119.555
33.5	112.732
34.0	106.550
34.5	100.835
35.0	95.644
35.5	90.920
36.0	86.488
36.5	82.464
37.0	78.790
37.5	75.349
38.0	72.258
38.5	69.400
39.0	66.718
39.5	64.210
40.0	61.877
40.5	59.719
41.0	57.736
41.5	55.870
42.0	54.121
42.5	52.488
43.0	50.913
43.5	49.455
44.0	48.055
44.5	46.714
45.0	45.431
45.5	44.265
46.0	43.098
46.5	41.990
47.0	40.940
47.5	39.891
48.0	38.899
48.5	37.908
49.0	36.975
49.5	36.042
50.0	35.167
50.5	34.350
51.0	33.476
51.5	32.717
52.0	31.901
52.5	31.143
53.0	30.443
53.5	29.685
54.0	28.985
54.5	28.343

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55.0	27.644
55.5	27.002
56.0	26.360
56.5	25.719
57.0	25.136
57.5	24.553
58.0	23.969
58.5	23.386
59.0	22.861
59.5	22.336
60.0	21.812
60.5	21.287
61.0	20.762
61.5	20.237
62.0	19.712
62.5	19.245
63.0	18.721
63.5	18.254
64.0	17.788
64.5	17.321
65.0	16.854
65.5	16.388
66.0	15.921
66.5	15.455
67.0	15.046
67.5	14.580
68.0	14.172
68.5	13.705
69.0	13.297
69.5	12.830
70.0	12.422
70.5	12.014
71.0	11.606
71.5	11.197
72.0	10.789
72.5	10.381
73.0	9.973
73.5	9.564
74.0	9.156
74.5	8.806
75.0	8.398
75.5	7.990
76.0	7.640
76.5	7.232
77.0	6.882
77.5	6.473
78.0	6.124
78.5	5.774
79.0	5.424
79.5	5.074
80.0	4.724
80.5	4.374
81.0	4.024
81.5	3.732
82.0	3.383
82.5	3.091

IES INDOOR REPORT**PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-LN-OF-WH_4000K.IES****CANDELA TABULATION - (Cont.)**

83.0	2.741
83.5	2.449
84.0	2.158
84.5	1.866
85.0	1.575
85.5	1.341
86.0	1.166
86.5	0.933
87.0	0.758
87.5	0.642
88.0	0.467
88.5	0.350
89.0	0.233
89.5	0.175
90.0	0.117
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 : V4DR-L9-8TW-DIM-UNV-LN-OF-WH_4000K.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

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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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-LN-OF-WH_4000K.IES****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	740.02	N.A.	69.20
0-30	917.29	N.A.	85.80
0-40	980.69	N.A.	91.70
0-60	1041.31	N.A.	97.40
0-80	1066.97	N.A.	99.80
0-90	1069.03	N.A.	100.00
10-90	754.60	N.A.	70.60
20-40	240.68	N.A.	22.50
20-50	276.36	N.A.	25.90
40-70	77.36	N.A.	7.20
60-80	25.66	N.A.	2.40
70-80	8.91	N.A.	0.80
80-90	2.06	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	1069.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	314.42
10-20	425.60
20-30	177.27
30-40	63.40
40-50	35.68
50-60	24.93
60-70	16.75
70-80	8.91
80-90	2.06
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	69	69	69	69	67	67	67	67	64	64	64	61	61	61	59	59	59	58
1	66	65	63	62	65	63	62	61	61	60	59	59	58	57	57	56	56	55
2	63	61	59	57	62	60	58	56	58	57	55	56	55	54	55	54	53	52
3	61	58	55	53	60	57	55	53	55	54	52	54	53	51	53	52	50	50
4	59	55	52	50	58	54	52	50	53	51	49	52	50	49	51	49	48	47
5	56	52	50	48	56	52	49	47	51	49	47	50	48	47	49	48	46	46
6	54	50	47	45	54	50	47	45	49	47	45	48	46	45	48	46	44	44
7	53	48	46	44	52	48	45	43	47	45	43	47	45	43	46	44	43	42
8	51	47	44	42	50	46	44	42	46	43	42	45	43	42	45	43	41	41
9	49	45	42	40	49	45	42	40	44	42	40	44	42	40	43	41	40	39
10	48	43	41	39	47	43	41	39	43	41	39	42	40	39	42	40	39	38

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UGR TABLE - CORRECTED

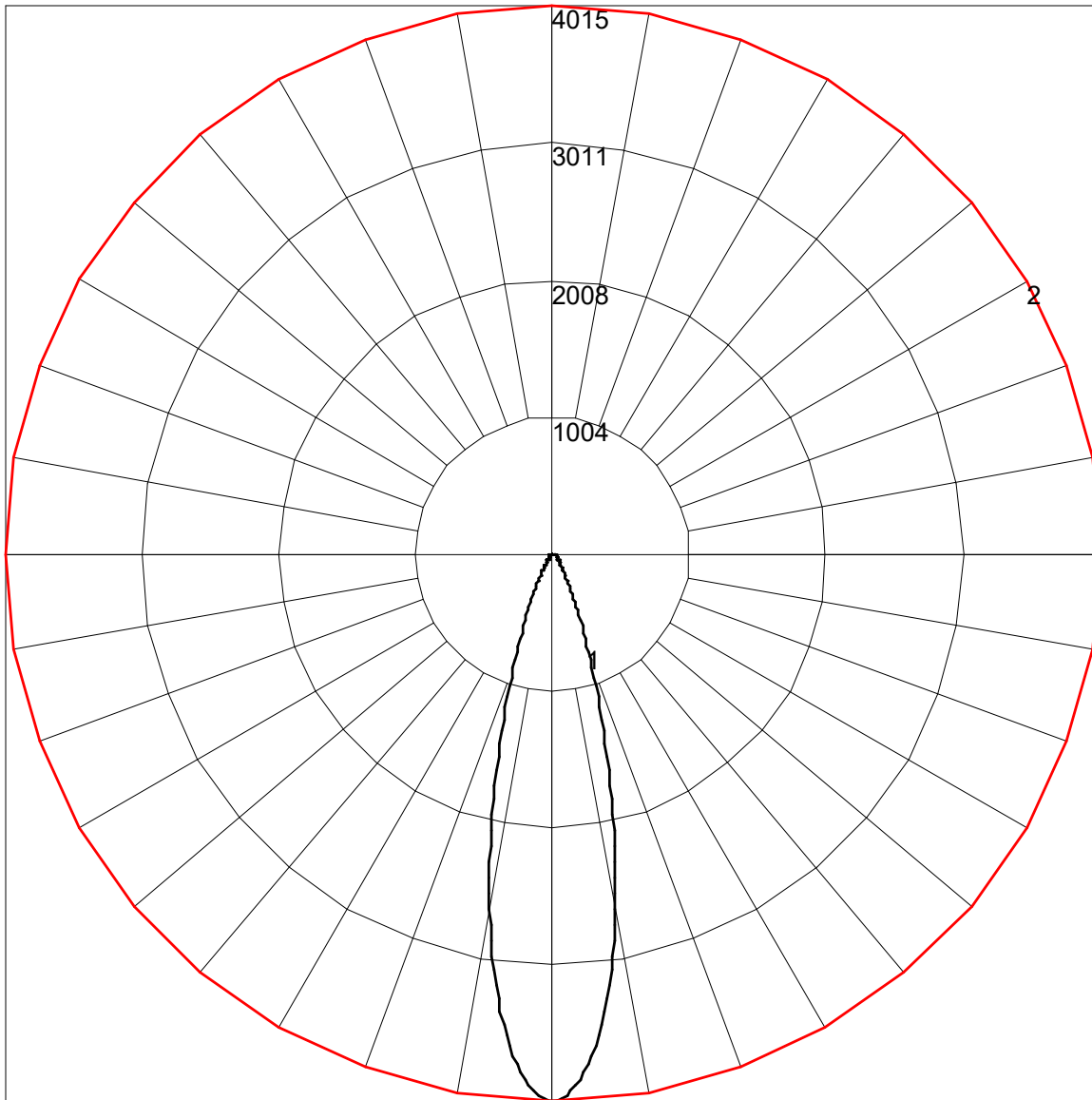
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	12.7	13.7	13.1	14.0	14.4	12.7	13.7	13.1	14.0	14.4
	3H	14.2	15.1	14.6	15.4	15.8	14.2	15.1	14.6	15.4	15.8
	4H	14.7	15.5	15.1	15.9	16.3	14.7	15.5	15.1	15.9	16.3
	6H	15.0	15.8	15.4	16.1	16.5	15.0	15.8	15.4	16.1	16.5
	8H	15.1	15.8	15.5	16.2	16.6	15.1	15.8	15.5	16.2	16.6
	12H	15.1	15.8	15.6	16.2	16.6	15.1	15.8	15.6	16.2	16.6
4H	2H	13.2	14.0	13.6	14.3	14.7	13.2	14.0	13.6	14.3	14.7
	3H	14.8	15.5	15.2	15.9	16.3	14.8	15.5	15.2	15.9	16.3
	4H	15.4	16.0	15.9	16.4	16.9	15.4	16.0	15.9	16.4	16.9
	6H	15.9	16.4	16.3	16.8	17.3	15.9	16.4	16.3	16.8	17.3
	8H	16.0	16.4	16.5	16.9	17.4	16.0	16.4	16.5	16.9	17.4
	12H	16.0	16.4	16.5	16.9	17.4	16.0	16.4	16.5	16.9	17.4
8H	4H	15.6	16.1	16.1	16.5	17.0	15.6	16.1	16.1	16.5	17.0
	6H	16.1	16.5	16.7	17.0	17.5	16.1	16.5	16.7	17.0	17.5
	8H	16.3	16.6	16.8	17.1	17.6	16.3	16.6	16.8	17.1	17.6
	12H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7
12H	4H	15.6	16.0	16.1	16.5	16.9	15.6	16.0	16.1	16.5	16.9
	6H	16.2	16.5	16.7	16.9	17.5	16.2	16.5	16.7	16.9	17.5
	8H	16.3	16.6	16.9	17.1	17.7	16.3	16.6	16.9	17.1	17.7

Maximum UGR = 17.7

POLAR GRAPH



Maximum Candela = 4015.311 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.)