



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.12

[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-RW-OF-WH 4000k

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

[MORE] s patterned lens 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	946
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	65
Total Luminaire Watts	14.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	21888	21888	21888
55	17673	17673	17673
65	11433	11433	11433
75	6375	6375	6375
85	3276	3276	3276

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.IES

CANDELA TABULATION

	<u>0</u>
0.0	760.089
0.5	760.089
1.0	759.374
1.5	757.944
2.0	756.514
2.5	755.084
3.0	752.939
3.5	750.794
4.0	748.648
4.5	745.788
5.0	743.643
5.5	740.783
6.0	737.923
6.5	735.063
7.0	732.203
7.5	729.342
8.0	726.482
8.5	722.907
9.0	720.047
9.5	717.187
10.0	714.469
10.5	711.538
11.0	708.535
11.5	705.603
12.0	702.814
12.5	700.026
13.0	697.237
13.5	694.377
14.0	691.517
14.5	688.656
15.0	685.725
15.5	682.722
16.0	679.575
16.5	676.429
17.0	673.212
17.5	669.779
18.0	666.133
18.5	662.200
19.0	658.410
19.5	654.334
20.0	649.901
20.5	644.824
21.0	638.961
21.5	632.597
22.0	625.304
22.5	617.224
23.0	608.071
23.5	597.775
24.0	586.477
24.5	573.678
25.0	559.377
25.5	543.575
26.0	526.485
26.5	508.323

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.IES

CANDELA TABULATION - (Cont.)

27.0	489.231
27.5	469.854
28.0	449.547
28.5	429.454
29.0	409.433
29.5	389.412
30.0	369.748
30.5	350.442
31.0	332.208
31.5	314.547
32.0	297.886
32.5	282.370
33.0	267.998
33.5	255.055
34.0	243.400
34.5	233.247
35.0	224.309
35.5	216.729
36.0	210.079
36.5	204.502
37.0	199.568
37.5	195.349
38.0	191.488
38.5	188.056
39.0	184.981
39.5	182.193
40.0	179.690
40.5	177.330
41.0	175.042
41.5	172.969
42.0	170.895
42.5	168.964
43.0	167.034
43.5	165.032
44.0	163.029
44.5	161.027
45.0	158.954
45.5	156.809
46.0	154.592
46.5	152.304
47.0	149.944
47.5	147.513
48.0	145.082
48.5	142.508
49.0	139.862
49.5	137.073
50.0	134.285
50.5	131.425
51.0	128.421
51.5	125.490
52.0	122.487
52.5	119.483
53.0	116.623
53.5	113.477
54.0	110.331
54.5	107.185

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.IES

CANDELA TABULATION - (Cont.)

55.0	104.110
55.5	100.964
56.0	97.889
56.5	94.886
57.0	91.883
57.5	88.880
58.0	85.948
58.5	83.088
59.0	80.228
59.5	77.439
60.0	74.650
60.5	71.933
61.0	69.288
61.5	66.642
62.0	64.139
62.5	61.565
63.0	59.134
63.5	56.631
64.0	54.272
64.5	51.912
65.0	49.624
65.5	47.336
66.0	45.119
66.5	42.974
67.0	40.900
67.5	38.827
68.0	36.825
68.5	34.823
69.0	32.892
69.5	31.033
70.0	29.317
70.5	27.672
71.0	26.171
71.5	24.740
72.0	23.382
72.5	22.095
73.0	20.879
73.5	19.807
74.0	18.734
74.5	17.805
75.0	16.946
75.5	16.160
76.0	15.302
76.5	14.515
77.0	13.729
77.5	12.942
78.0	12.227
78.5	11.441
79.0	10.726
79.5	10.011
80.0	9.296
80.5	8.580
81.0	7.937
81.5	7.293
82.0	6.578
82.5	6.006

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.IES

CANDELA TABULATION - (Cont.)

83.0	5.363
83.5	4.719
84.0	4.147
84.5	3.504
85.0	2.932
85.5	2.431
86.0	1.931
86.5	1.573
87.0	1.216
87.5	0.930
88.0	0.644
88.5	0.429
89.0	0.215
89.5	0.072
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 : V4DR-L9-8TW-DIM-UNV-RW-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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	263.09	N.A.	27.80
0-30	509.12	N.A.	53.80
0-40	659.04	N.A.	69.60
0-60	873.99	N.A.	92.40
0-80	942.38	N.A.	99.60
0-90	946.25	N.A.	100.00
10-90	876.24	N.A.	92.60
20-40	395.95	N.A.	41.80
20-50	517.93	N.A.	54.70
40-70	264.66	N.A.	28.00
60-80	68.39	N.A.	7.20
70-80	18.68	N.A.	2.00
80-90	3.87	N.A.	0.40
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	946.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	70.01
10-20	193.09
20-30	246.02
30-40	149.93
40-50	121.98
50-60	92.96
60-70	49.71
70-80	18.68
80-90	3.87
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : V4DR-L9-8TW-DIM-UNV-RW-OF-WH_4000K.IES

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	65	63	61	59	63	61	60	58	59	58	56	57	56	55	55	54	53	52
2	60	57	54	51	59	56	53	51	54	51	50	52	50	48	50	49	47	46
3	56	52	48	45	55	51	47	45	49	46	44	48	45	43	46	44	43	42
4	53	47	43	40	51	47	43	40	45	42	39	44	41	39	43	40	38	37
5	49	43	39	36	48	43	39	36	42	38	36	41	38	35	40	37	35	34
6	46	40	36	33	45	40	36	33	39	35	33	38	35	32	37	34	32	31
7	44	37	33	30	43	37	33	30	36	32	30	35	32	30	35	32	29	29
8	41	35	31	28	40	34	30	28	34	30	28	33	30	27	32	29	27	26
9	39	32	28	26	38	32	28	26	31	28	26	31	28	25	30	27	25	24
10	37	30	27	24	36	30	26	24	30	26	24	29	26	24	29	26	24	23

IES INDOOR REPORT

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

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

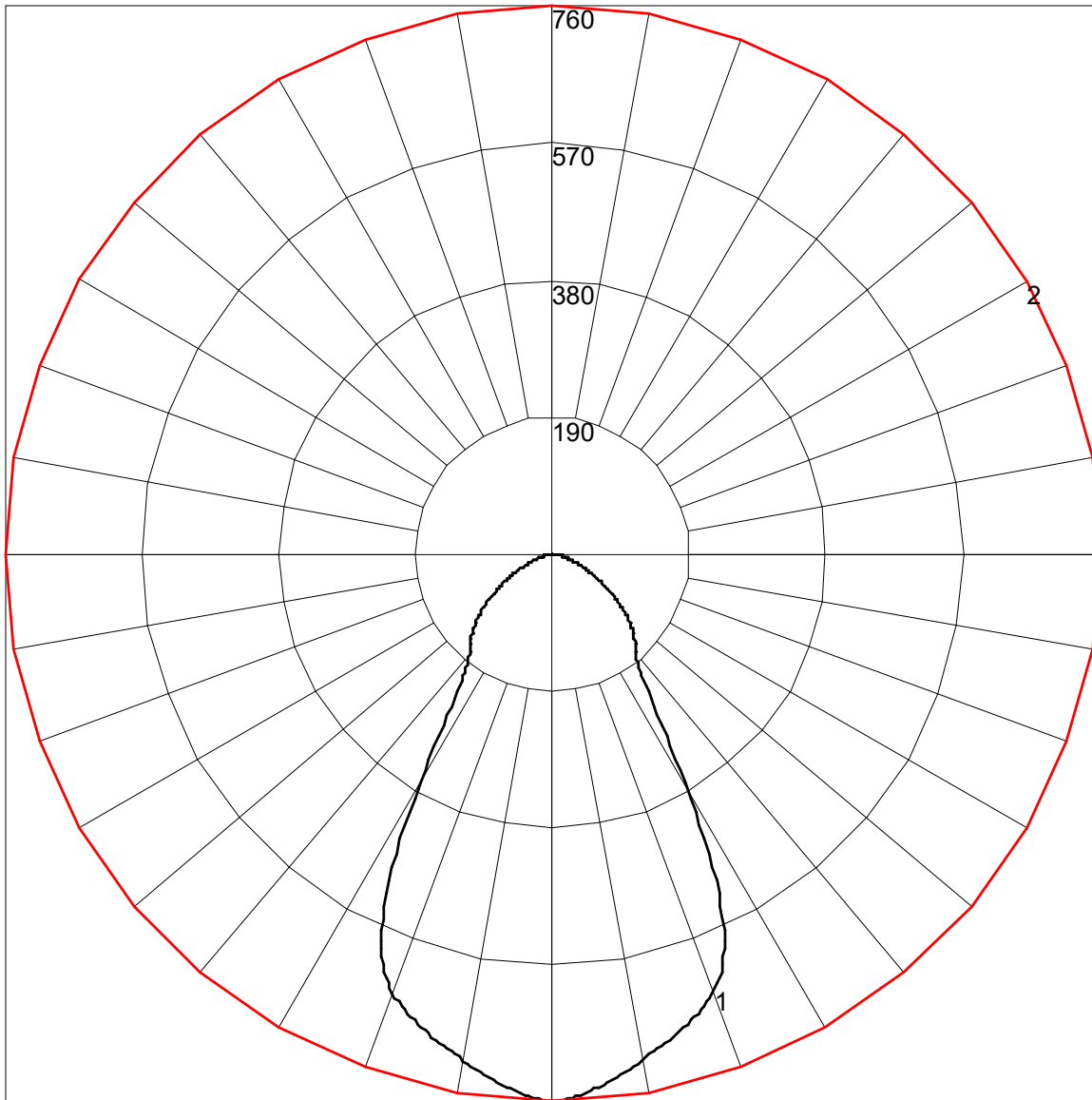
X=2H	Y=2H	21.3	22.6	21.7	22.9	23.2	21.3	22.6	21.7	22.9	23.2
	3H	22.1	23.2	22.4	23.6	23.9	22.1	23.2	22.4	23.6	23.9
	4H	22.2	23.3	22.6	23.7	24.0	22.2	23.3	22.6	23.7	24.0
	6H	22.4	23.3	22.8	23.7	24.1	22.4	23.3	22.8	23.7	24.1
	8H	22.4	23.3	22.8	23.7	24.1	22.4	23.3	22.8	23.7	24.1
	12H	22.3	23.2	22.8	23.6	24.1	22.3	23.2	22.8	23.6	24.1

UGR Viewed Endwise

4H	2H	21.6	22.7	22.0	23.0	23.4	21.6	22.7	22.0	23.0	23.4
	3H	22.5	23.4	22.9	23.8	24.2	22.5	23.4	22.9	23.8	24.2
	4H	22.7	23.5	23.1	23.9	24.4	22.7	23.5	23.1	23.9	24.4
	6H	22.9	23.6	23.4	24.0	24.5	22.9	23.6	23.4	24.0	24.5
	8H	22.9	23.5	23.4	24.0	24.5	22.9	23.5	23.4	24.0	24.5
	12H	22.9	23.5	23.4	24.0	24.4	22.9	23.5	23.4	24.0	24.4
8H	4H	22.8	23.4	23.2	23.8	24.3	22.8	23.4	23.2	23.8	24.3
	6H	23.0	23.5	23.5	24.0	24.5	23.0	23.5	23.5	24.0	24.5
	8H	23.0	23.5	23.6	24.0	24.5	23.0	23.5	23.6	24.0	24.5
	12H	23.1	23.5	23.6	24.0	24.5	23.1	23.5	23.6	24.0	24.5
12H	4H	22.7	23.3	23.2	23.8	24.2	22.7	23.3	23.2	23.8	24.2
	6H	23.0	23.4	23.5	23.9	24.4	23.0	23.4	23.5	23.9	24.4
	8H	23.0	23.5	23.6	23.9	24.5	23.0	23.5	23.6	23.9	24.5

Maximum UGR = 24.5

POLAR GRAPH



Maximum Candela = 760.089 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.)