



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P12-8TW-POE X-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] 21 SEP 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P12-8TW-POE x-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	1586
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	91
Total Luminaire Watts	17.5
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	12035	12035	12035
55	9380	9380	9380
65	7840	7840	7840
75	6307	6307	6307
85	3768	3768	3768

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CANDELA TABULATION

	<u>0</u>
0.0	4103.797
0.5	4102.029
1.0	4095.840
1.5	4086.116
2.0	4073.739
2.5	4056.942
3.0	4037.492
3.5	4014.507
4.0	3987.985
4.5	3959.695
5.0	3927.869
5.5	3892.507
6.0	3853.608
6.5	3810.289
7.0	3763.434
7.5	3712.159
8.0	3656.463
8.5	3596.347
9.0	3532.695
9.5	3463.739
10.0	3389.478
10.5	3309.913
11.0	3226.811
11.5	3139.290
12.0	3046.463
12.5	2950.101
13.0	2849.319
13.5	2745.000
14.0	2636.261
14.5	2523.985
15.0	2410.826
15.5	2295.898
16.0	2180.971
16.5	2065.159
17.0	1950.232
17.5	1838.840
18.0	1728.333
18.5	1622.246
19.0	1520.580
19.5	1422.449
20.0	1329.623
20.5	1240.333
21.0	1157.232
21.5	1078.551
22.0	1004.290
22.5	935.333
23.0	870.267
23.5	809.620
24.0	753.306
24.5	700.704
25.0	651.904
25.5	606.552
26.0	564.029
26.5	524.777

IES INDOOR REPORT**PHOTOMETRIC FILENAME : V4DR-P12-8TW-POE X-LM-OF-WH_4000K_.IES****CANDELA TABULATION - (Cont.)**

27.0	488.177
27.5	454.671
28.0	423.464
28.5	394.643
29.0	368.210
29.5	343.545
30.0	320.648
30.5	299.519
31.0	279.981
31.5	262.035
32.0	245.414
32.5	230.120
33.0	216.064
33.5	203.068
34.0	191.222
34.5	180.259
35.0	170.358
35.5	161.164
36.0	152.765
36.5	145.074
37.0	138.001
37.5	131.548
38.0	125.713
38.5	120.320
39.0	115.370
39.5	110.861
40.0	106.706
40.5	102.816
41.0	99.191
41.5	95.920
42.0	92.826
42.5	89.909
43.0	87.257
43.5	84.693
44.0	82.306
44.5	80.096
45.0	77.885
45.5	75.852
46.0	73.996
46.5	72.139
47.0	70.371
47.5	68.780
48.0	67.100
48.5	65.597
49.0	64.094
49.5	62.591
50.0	61.265
50.5	59.939
51.0	58.701
51.5	57.375
52.0	56.138
52.5	54.988
53.0	53.751
53.5	52.601
54.0	51.452
54.5	50.303

IES INDOOR REPORT**PHOTOMETRIC FILENAME : V4DR-P12-8TW-POE X-LM-OF-WH_4000K_.IES****CANDELA TABULATION - (Cont.)**

55.0	49.242
55.5	48.181
56.0	47.120
56.5	46.059
57.0	44.910
57.5	43.938
58.0	42.965
58.5	42.081
59.0	41.109
59.5	40.136
60.0	39.164
60.5	38.191
61.0	37.396
61.5	36.423
62.0	35.539
62.5	34.655
63.0	33.771
63.5	32.975
64.0	32.091
64.5	31.207
65.0	30.323
65.5	29.528
66.0	28.732
66.5	27.936
67.0	27.052
67.5	26.257
68.0	25.461
68.5	24.665
69.0	23.870
69.5	23.074
70.0	22.278
70.5	21.571
71.0	20.864
71.5	19.980
72.0	19.272
72.5	18.565
73.0	17.858
73.5	17.062
74.0	16.355
74.5	15.648
75.0	14.941
75.5	14.233
76.0	13.526
76.5	12.819
77.0	12.112
77.5	11.581
78.0	10.874
78.5	10.255
79.0	9.636
79.5	9.017
80.0	8.399
80.5	7.780
81.0	7.161
81.5	6.719
82.0	6.012
82.5	5.570

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83.0	4.951
83.5	4.509
84.0	3.978
84.5	3.448
85.0	3.006
85.5	2.475
86.0	2.122
86.5	1.680
87.0	1.414
87.5	1.149
88.0	0.884
88.5	0.707
89.0	0.530
89.5	0.354
90.0	0.265
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-P12-8TW-POE X-LM-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
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131.0	0.000
131.5	0.000
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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-P12-8TW-POE X-LM-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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	1003.04	N.A.	63.20
0-30	1317.36	N.A.	83.10
0-40	1430.66	N.A.	90.20
0-60	1536.28	N.A.	96.90
0-80	1582.33	N.A.	99.80
0-90	1586.07	N.A.	100.00
10-90	1227.91	N.A.	77.40
20-40	427.62	N.A.	27.00
20-50	488.98	N.A.	30.80
40-70	135.78	N.A.	8.60
60-80	46.05	N.A.	2.90
70-80	15.89	N.A.	1.00
80-90	3.74	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	1586.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	358.16
10-20	644.89
20-30	314.31
30-40	113.30
40-50	61.36
50-60	44.26
60-70	30.16
70-80	15.89
80-90	3.74
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	163	163	163	163	159	159	159	159	152	152	152	146	146	146	140	140	140	137
1	156	152	149	146	153	150	147	144	144	142	140	139	137	135	134	133	132	129
2	149	143	138	134	146	141	136	132	136	132	129	132	129	126	128	126	124	122
3	143	135	129	124	140	133	127	123	129	125	121	126	122	119	123	120	117	115
4	137	128	121	116	135	126	120	115	123	118	114	121	116	112	118	114	111	109
5	131	121	114	109	129	120	113	109	118	112	108	116	111	107	113	109	106	104
6	126	116	109	103	124	115	108	103	113	107	102	111	106	102	109	105	101	99
7	122	111	103	99	120	110	103	98	108	102	98	107	101	97	105	100	97	95
8	117	106	99	94	116	105	99	94	104	98	94	103	97	93	101	97	93	91
9	113	102	95	90	112	101	95	90	100	94	90	99	93	90	98	93	89	88
10	109	98	91	87	108	98	91	87	96	91	86	96	90	86	95	90	86	85

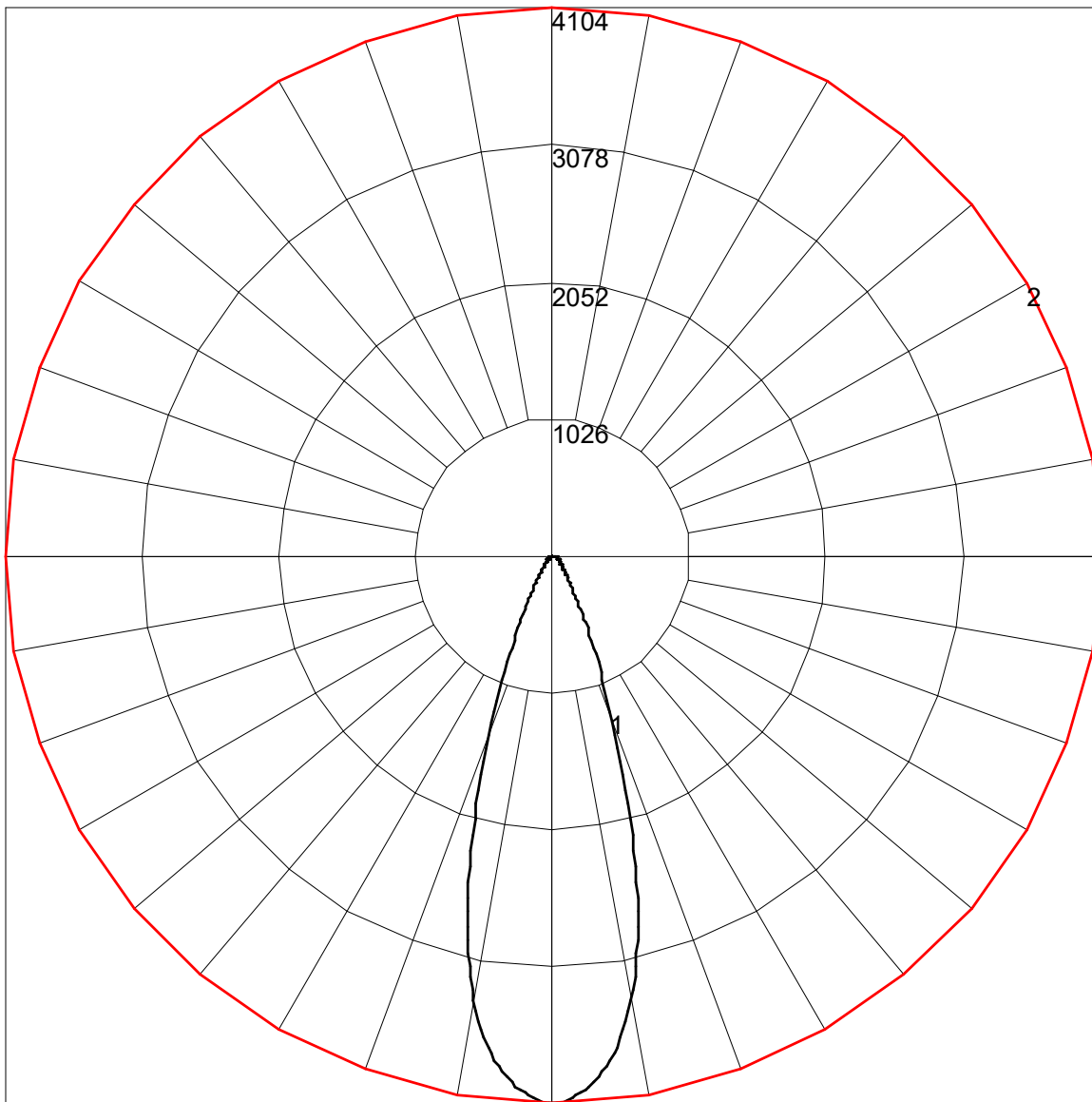
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UGR TABLE - CORRECTED

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	12.4	13.5	12.8	13.8	14.1	12.4	13.5	12.8	13.8	14.1
	3H	13.9	14.8	14.3	15.1	15.5	13.9	14.8	14.3	15.1	15.5
	4H	14.4	15.2	14.8	15.6	16.0	14.4	15.2	14.8	15.6	16.0
	6H	14.7	15.5	15.1	15.9	16.3	14.7	15.5	15.1	15.9	16.3
	8H	14.8	15.5	15.2	15.9	16.3	14.8	15.5	15.2	15.9	16.3
	12H	14.8	15.5	15.3	15.9	16.3	14.8	15.5	15.3	15.9	16.3
4H	2H	12.9	13.7	13.3	14.1	14.5	12.9	13.7	13.3	14.1	14.5
	3H	14.5	15.2	14.9	15.6	16.0	14.5	15.2	14.9	15.6	16.0
	4H	15.2	15.8	15.6	16.2	16.6	15.2	15.8	15.6	16.2	16.6
	6H	15.6	16.1	16.1	16.6	17.0	15.6	16.1	16.1	16.6	17.0
	8H	15.7	16.2	16.2	16.6	17.1	15.7	16.2	16.2	16.6	17.1
	12H	15.7	16.2	16.2	16.6	17.1	15.7	16.2	16.2	16.6	17.1
8H	4H	15.3	15.8	15.8	16.2	16.7	15.3	15.8	15.8	16.2	16.7
	6H	15.8	16.2	16.4	16.7	17.2	15.8	16.2	16.4	16.7	17.2
	8H	16.0	16.4	16.5	16.9	17.4	16.0	16.4	16.5	16.9	17.4
	12H	16.1	16.4	16.6	16.9	17.5	16.1	16.4	16.6	16.9	17.5
12H	4H	15.3	15.7	15.8	16.2	16.7	15.3	15.7	15.8	16.2	16.7
	6H	15.9	16.2	16.4	16.7	17.2	15.9	16.2	16.4	16.7	17.2
	8H	16.0	16.4	16.6	16.8	17.4	16.0	16.4	16.6	16.8	17.4

Maximum UGR = 17.5

POLAR GRAPH



Maximum Candela = 4103.797 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.)