



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P12-8TW-POE-RN-OF-WH_4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.15

[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-RN-OF-WH 4000k

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

[MORE] tic optic, clear glass 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	1565
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	17.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.46
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	7833	7833	7833
55	5211	5211	5211
65	3587	3587	3587
75	2330	2330	2330
85	1878	1878	1878

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CANDELA TABULATION

	<u>0</u>
0.0	5869.856
0.5	5862.779
1.0	5844.200
1.5	5811.467
2.0	5767.233
2.5	5711.498
3.0	5645.147
3.5	5569.065
4.0	5483.251
4.5	5388.590
5.0	5285.967
5.5	5175.382
6.0	5056.834
6.5	4929.440
7.0	4794.969
7.5	4655.189
8.0	4510.102
8.5	4358.821
9.0	4204.887
9.5	4046.529
10.0	3887.287
10.5	3725.390
11.0	3562.609
11.5	3399.828
12.0	3237.931
12.5	3078.689
13.0	2920.331
13.5	2765.512
14.0	2613.347
14.5	2465.605
15.0	2323.171
15.5	2186.046
16.0	2052.459
16.5	1925.950
17.0	1804.748
17.5	1688.855
18.0	1579.155
18.5	1474.763
19.0	1376.563
19.5	1284.556
20.0	1197.858
20.5	1115.582
21.0	1038.615
21.5	967.841
22.0	899.720
22.5	835.846
23.0	774.980
23.5	718.626
24.0	666.076
24.5	616.888
25.0	570.973
25.5	528.331
26.0	489.051
26.5	452.691

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CANDELA TABULATION - (Cont.)

27.0	419.162
27.5	388.286
28.0	359.888
28.5	334.055
29.0	310.257
29.5	288.406
30.0	268.324
30.5	249.745
31.0	232.848
31.5	217.278
32.0	202.857
32.5	189.587
33.0	177.467
33.5	166.320
34.0	155.969
34.5	146.503
35.0	137.922
35.5	129.960
36.0	122.705
36.5	116.070
37.0	109.966
37.5	104.392
38.0	99.261
38.5	94.572
39.0	90.326
39.5	86.345
40.0	82.629
40.5	79.179
41.0	75.994
41.5	72.986
42.0	70.244
42.5	67.678
43.0	65.201
43.5	62.901
44.0	60.778
44.5	58.743
45.0	56.885
45.5	55.027
46.0	53.346
46.5	51.665
47.0	50.073
47.5	48.480
48.0	46.977
48.5	45.561
49.0	44.146
49.5	42.819
50.0	41.492
50.5	40.253
51.0	39.014
51.5	37.864
52.0	36.714
52.5	35.653
53.0	34.591
53.5	33.529
54.0	32.556
54.5	31.672

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CANDELA TABULATION - (Cont.)

55.0	30.698
55.5	29.814
56.0	28.929
56.5	28.044
57.0	27.248
57.5	26.452
58.0	25.567
58.5	24.771
59.0	24.063
59.5	23.267
60.0	22.471
60.5	21.763
61.0	21.055
61.5	20.348
62.0	19.640
62.5	18.932
63.0	18.224
63.5	17.517
64.0	16.897
64.5	16.278
65.0	15.570
65.5	14.951
66.0	14.332
66.5	13.713
67.0	13.182
67.5	12.562
68.0	12.032
68.5	11.412
69.0	10.882
69.5	10.351
70.0	9.820
70.5	9.378
71.0	8.935
71.5	8.493
72.0	8.139
72.5	7.697
73.0	7.343
73.5	7.077
74.0	6.724
74.5	6.458
75.0	6.193
75.5	5.927
76.0	5.662
76.5	5.397
77.0	5.131
77.5	4.866
78.0	4.689
78.5	4.423
79.0	4.158
79.5	3.981
80.0	3.716
80.5	3.450
81.0	3.273
81.5	3.008
82.0	2.831
82.5	2.654

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CANDELA TABULATION - (Cont.)

83.0	2.389
83.5	2.212
84.0	2.035
84.5	1.858
85.0	1.681
85.5	1.504
86.0	1.239
86.5	1.150
87.0	0.973
87.5	0.796
88.0	0.619
88.5	0.442
89.0	0.354
89.5	0.265
90.0	0.177
90.5	0.177
91.0	0.088
91.5	0.000
92.0	0.088
92.5	0.088
93.0	0.088
93.5	0.088
94.0	0.000
94.5	0.088
95.0	0.088
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	0.088
103.0	0.000
103.5	0.088
104.0	0.088
104.5	0.088
105.0	0.088
105.5	0.088
106.0	0.088
106.5	0.088
107.0	0.088
107.5	0.000
108.0	0.088
108.5	0.088
109.0	0.088
109.5	0.088
110.0	0.088
110.5	0.088

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CANDELA TABULATION - (Cont.)

111.0	0.088
111.5	0.088
112.0	0.088
112.5	0.088
113.0	0.088
113.5	0.088
114.0	0.088
114.5	0.088
115.0	0.088
115.5	0.088
116.0	0.088
116.5	0.088
117.0	0.088
117.5	0.088
118.0	0.088
118.5	0.088
119.0	0.088
119.5	0.088
120.0	0.088
120.5	0.088
121.0	0.088
121.5	0.088
122.0	0.088
122.5	0.088
123.0	0.088
123.5	0.088
124.0	0.088
124.5	0.088
125.0	0.088
125.5	0.088
126.0	0.088
126.5	0.088
127.0	0.088
127.5	0.088
128.0	0.088
128.5	0.088
129.0	0.088
129.5	0.088
130.0	0.088
130.5	0.088
131.0	0.177
131.5	0.177
132.0	0.177
132.5	0.177
133.0	0.177
133.5	0.177
134.0	0.177
134.5	0.177
135.0	0.265
135.5	0.265
136.0	0.265
136.5	0.265
137.0	0.265
137.5	0.354
138.0	0.354
138.5	0.354

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CANDELA TABULATION - (Cont.)

139.0	0.354
139.5	0.442
140.0	0.442
140.5	0.442
141.0	0.531
141.5	0.531
142.0	0.531
142.5	0.619
143.0	0.619
143.5	0.619
144.0	0.708
144.5	0.708
145.0	0.796
145.5	0.796
146.0	0.885
146.5	0.885
147.0	0.973
147.5	0.973
148.0	1.062
148.5	1.062
149.0	1.150
149.5	1.150
150.0	1.239
150.5	1.239
151.0	1.327
151.5	1.327
152.0	1.415
152.5	1.415
153.0	1.504
153.5	1.504
154.0	1.592
154.5	1.592
155.0	1.681
155.5	1.681
156.0	1.769
156.5	1.769
157.0	1.769
157.5	1.858
158.0	1.858
158.5	1.946
159.0	1.946
159.5	1.946
160.0	2.035
160.5	2.035
161.0	2.035
161.5	2.035
162.0	2.123
162.5	2.123
163.0	2.123
163.5	2.123
164.0	2.123
164.5	2.123
165.0	2.123
165.5	2.123
166.0	2.212
166.5	2.123

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CANDELA TABULATION - (Cont.)

167.0	2.212
167.5	2.212
168.0	2.212
168.5	2.123
169.0	2.123
169.5	2.123
170.0	2.123
170.5	2.123
171.0	2.123
171.5	2.123
172.0	2.123
172.5	2.123
173.0	2.123
173.5	2.123
174.0	2.123
174.5	2.123
175.0	2.123
175.5	2.123
176.0	2.123
176.5	2.123
177.0	2.123
177.5	2.035
178.0	2.035
178.5	2.035
179.0	2.035
179.5	2.035
180.0	2.035

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1097.39	N.A.	70.10
0-30	1373.74	N.A.	87.80
0-40	1465.82	N.A.	93.70
0-60	1538.47	N.A.	98.30
0-80	1560.78	N.A.	99.70
0-90	1562.66	N.A.	99.80
10-90	1103.66	N.A.	70.50
20-40	368.43	N.A.	23.50
20-50	413.32	N.A.	26.40
40-70	88.24	N.A.	5.60
60-80	22.30	N.A.	1.40
70-80	6.72	N.A.	0.40
80-90	1.89	N.A.	0.10
90-110	0.11	N.A.	0.00
90-120	0.20	N.A.	0.00
90-130	0.28	N.A.	0.00
90-150	0.95	N.A.	0.10
90-180	2.50	N.A.	0.20
110-180	2.39	N.A.	0.20
0-180	1565.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	459.00
10-20	638.39
20-30	276.34
30-40	92.08
40-50	44.89
50-60	27.76
60-70	15.59
70-80	6.72
80-90	1.89
90-100	0.05
100-110	0.06
110-120	0.09
120-130	0.08
130-140	0.19
140-150	0.49
150-160	0.75
160-170	0.60
170-180	0.20

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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	159	159	159	159	155	155	155	155	149	149	149	142	142	142	136	136	136	134
1	153	150	147	144	150	147	144	142	142	140	138	137	135	134	132	131	130	127
2	147	142	137	133	144	139	135	132	135	132	129	131	128	126	127	125	123	121
3	141	134	129	125	139	133	128	124	129	125	122	126	123	120	123	120	118	116
4	136	128	122	118	134	127	121	117	124	119	116	121	117	114	119	116	113	111
5	131	123	116	112	130	121	116	111	119	114	110	117	113	109	115	111	108	107
6	127	118	111	107	125	117	111	106	115	110	106	113	108	105	111	107	104	103
7	123	113	107	102	121	112	106	102	111	105	102	109	105	101	108	104	101	99
8	119	109	103	98	118	108	102	98	107	102	98	106	101	97	105	100	97	96
9	115	105	99	95	114	105	99	95	104	98	94	102	98	94	101	97	94	92
10	112	102	96	92	111	101	96	92	100	95	91	99	95	91	99	94	91	90

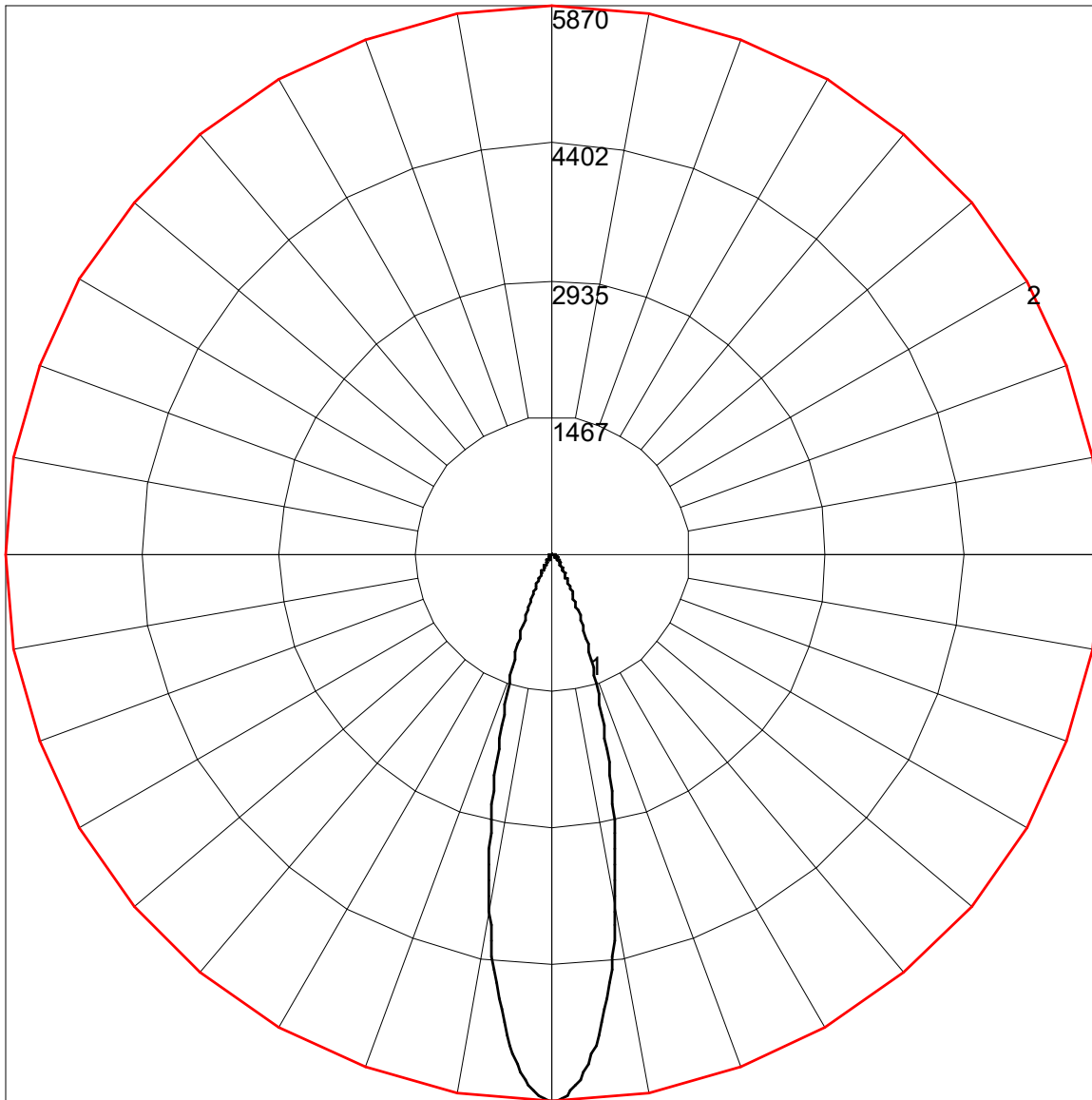
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UGR TABLE - CORRECTED

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	8.6	9.6	9.0	9.9	10.2	8.6	9.6	9.0	9.9	10.2
	3H	9.5	10.4	9.9	10.7	11.1	9.5	10.4	9.9	10.7	11.1
	4H	9.7	10.5	10.2	10.9	11.3	9.7	10.5	10.2	10.9	11.3
	6H	9.9	10.6	10.3	11.0	11.4	9.9	10.6	10.3	11.0	11.4
	8H	10.0	10.6	10.4	11.0	11.4	10.0	10.6	10.4	11.0	11.4
	12H	10.0	10.6	10.4	11.0	11.4	10.0	10.6	10.4	11.0	11.4
4H	2H	8.9	9.7	9.3	10.0	10.4	8.9	9.7	9.3	10.0	10.4
	3H	9.9	10.5	10.3	10.9	11.4	9.9	10.5	10.3	10.9	11.4
	4H	10.2	10.8	10.7	11.2	11.7	10.2	10.8	10.7	11.2	11.7
	6H	10.5	11.0	11.0	11.4	11.9	10.5	11.0	11.0	11.4	11.9
	8H	10.6	11.0	11.0	11.5	12.0	10.6	11.0	11.0	11.5	12.0
	12H	10.6	11.0	11.1	11.5	12.0	10.6	11.0	11.1	11.5	12.0
8H	4H	10.3	10.7	10.7	11.2	11.6	10.3	10.7	10.7	11.2	11.6
	6H	10.6	11.0	11.1	11.5	12.0	10.6	11.0	11.1	11.5	12.0
	8H	10.8	11.1	11.3	11.6	12.1	10.8	11.1	11.3	11.6	12.1
	12H	10.9	11.2	11.4	11.7	12.2	10.9	11.2	11.4	11.7	12.2
12H	4H	10.2	10.6	10.7	11.1	11.6	10.2	10.6	10.7	11.1	11.6
	6H	10.6	10.9	11.2	11.4	12.0	10.6	10.9	11.2	11.4	12.0
	8H	10.8	11.1	11.3	11.6	12.2	10.8	11.1	11.3	11.6	12.2

Maximum UGR = 12.2

POLAR GRAPH



Maximum Candela = 5869.856 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.)