



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P12-8TW-POE-RM-OF-WH\_4000K.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.14

[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-RM-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	1588
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)	0.52
Spacing Criterion (90-270)	0.52
Spacing Criterion (Diagonal)	0.52
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	9112	9112	9112
55	6337	6337	6337
65	4525	4525	4525
75	3029	3029	3029
85	2471	2471	2471

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CANDELA TABULATION

	<u>0</u>
0.0	4579.102
0.5	4575.563
1.0	4564.947
1.5	4548.138
2.0	4525.136
2.5	4495.942
3.0	4461.439
3.5	4420.744
4.0	4373.856
4.5	4323.429
5.0	4267.694
5.5	4205.767
6.0	4139.416
6.5	4068.642
7.0	3992.559
7.5	3911.169
8.0	3826.239
8.5	3736.002
9.0	3643.111
9.5	3546.681
10.0	3446.712
10.5	3344.089
11.0	3238.812
11.5	3131.766
12.0	3022.950
12.5	2915.019
13.0	2807.088
13.5	2698.273
14.0	2588.573
14.5	2478.872
15.0	2370.941
15.5	2263.895
16.0	2156.849
16.5	2052.457
17.0	1948.949
17.5	1847.211
18.0	1747.242
18.5	1649.927
19.0	1557.036
19.5	1465.914
20.0	1377.446
20.5	1293.402
21.0	1212.011
21.5	1134.159
22.0	1060.731
22.5	990.841
23.0	925.375
23.5	862.740
24.0	803.466
24.5	747.643
25.0	695.447
25.5	646.878
26.0	601.582
26.5	559.118

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	519.661
<b>27.5</b>	483.124
<b>28.0</b>	449.152
<b>28.5</b>	417.480
<b>29.0</b>	388.463
<b>29.5</b>	361.392
<b>30.0</b>	336.355
<b>30.5</b>	313.354
<b>31.0</b>	292.121
<b>31.5</b>	272.481
<b>32.0</b>	254.345
<b>32.5</b>	237.713
<b>33.0</b>	222.320
<b>33.5</b>	207.988
<b>34.0</b>	194.895
<b>34.5</b>	182.686
<b>35.0</b>	171.451
<b>35.5</b>	161.100
<b>36.0</b>	151.457
<b>36.5</b>	142.610
<b>37.0</b>	134.383
<b>37.5</b>	126.952
<b>38.0</b>	120.051
<b>38.5</b>	113.858
<b>39.0</b>	108.108
<b>39.5</b>	102.888
<b>40.0</b>	98.199
<b>40.5</b>	93.776
<b>41.0</b>	89.795
<b>41.5</b>	86.079
<b>42.0</b>	82.629
<b>42.5</b>	79.444
<b>43.0</b>	76.436
<b>43.5</b>	73.605
<b>44.0</b>	70.951
<b>44.5</b>	68.474
<b>45.0</b>	66.174
<b>45.5</b>	64.051
<b>46.0</b>	62.016
<b>46.5</b>	60.070
<b>47.0</b>	58.212
<b>47.5</b>	56.531
<b>48.0</b>	54.939
<b>48.5</b>	53.346
<b>49.0</b>	51.842
<b>49.5</b>	50.427
<b>50.0</b>	49.100
<b>50.5</b>	47.773
<b>51.0</b>	46.534
<b>51.5</b>	45.207
<b>52.0</b>	44.057
<b>52.5</b>	42.818
<b>53.0</b>	41.757
<b>53.5</b>	40.607
<b>54.0</b>	39.457
<b>54.5</b>	38.395

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CANDELA TABULATION - (Cont.)

55.0	37.333
55.5	36.272
56.0	35.299
56.5	34.326
57.0	33.352
57.5	32.379
58.0	31.406
58.5	30.521
59.0	29.637
59.5	28.752
60.0	27.867
60.5	26.983
61.0	26.098
61.5	25.302
62.0	24.417
62.5	23.621
63.0	22.736
63.5	21.940
64.0	21.144
64.5	20.348
65.0	19.640
65.5	18.844
66.0	18.136
66.5	17.340
67.0	16.632
67.5	15.924
68.0	15.216
68.5	14.597
69.0	13.889
69.5	13.270
70.0	12.651
70.5	12.120
71.0	11.589
71.5	11.058
72.0	10.528
72.5	10.085
73.0	9.643
73.5	9.201
74.0	8.847
74.5	8.404
75.0	8.051
75.5	7.697
76.0	7.343
76.5	7.077
77.0	6.724
77.5	6.370
78.0	6.104
78.5	5.750
79.0	5.485
79.5	5.220
80.0	4.866
80.5	4.600
81.0	4.335
81.5	4.070
82.0	3.716
82.5	3.450

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CANDELA TABULATION - (Cont.)

83.0	3.185
83.5	2.919
84.0	2.654
84.5	2.389
85.0	2.212
85.5	1.946
86.0	1.681
86.5	1.415
87.0	1.239
87.5	1.062
88.0	0.885
88.5	0.708
89.0	0.619
89.5	0.442
90.0	0.354
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  
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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
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128.0	0.000
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129.0	0.000
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130.0	0.000
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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  
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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
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148.5	0.000
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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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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1024.65	N.A.	64.50
0-30	1357.18	N.A.	85.40
0-40	1471.28	N.A.	92.60
0-60	1557.54	N.A.	98.10
0-80	1585.86	N.A.	99.80
0-90	1588.37	N.A.	100.00
10-90	1207.43	N.A.	76.00
20-40	446.63	N.A.	28.10
20-50	499.24	N.A.	31.40
40-70	105.83	N.A.	6.70
60-80	28.32	N.A.	1.80
70-80	8.75	N.A.	0.60
80-90	2.51	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	1588.38	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	380.94
10-20	643.71
20-30	332.53
30-40	114.10
40-50	52.61
50-60	33.65
60-70	19.57
70-80	8.75
80-90	2.51
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	153	150	147	153	150	147	145	144	142	140	139	138	136	135	133	132	130
2	150	144	139	135	147	141	137	133	137	133	130	133	130	128	129	127	125	123
3	144	136	130	125	141	134	129	124	131	126	122	127	124	120	124	121	119	117
4	138	129	122	117	136	127	121	117	125	120	115	122	118	114	120	116	113	111
5	133	123	116	111	130	122	115	111	119	114	110	117	112	109	115	111	108	106
6	128	117	110	105	126	116	110	105	114	109	104	113	108	104	111	107	103	101
7	123	112	105	101	121	111	105	100	110	104	100	108	103	99	107	102	99	97
8	119	108	101	96	117	107	101	96	106	100	96	104	99	95	103	99	95	93
9	115	104	97	92	113	103	97	92	102	96	92	101	96	92	100	95	91	90
10	111	100	93	89	110	99	93	89	98	93	89	97	92	88	96	92	88	87

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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	9.9	10.9	10.3	11.2	11.5	UGR Viewed Endwise	9.9	10.9	10.3	11.2	11.5
	3H	10.9	11.7	11.2	12.1	12.5		10.9	11.7	11.2	12.1	12.5
	4H	11.2	12.0	11.6	12.3	12.7		11.2	12.0	11.6	12.3	12.7
	6H	11.4	12.1	11.8	12.5	12.9		11.4	12.1	11.8	12.5	12.9
	8H	11.4	12.1	11.9	12.5	12.9		11.4	12.1	11.9	12.5	12.9
	12H	11.5	12.1	11.9	12.5	12.9		11.5	12.1	11.9	12.5	12.9

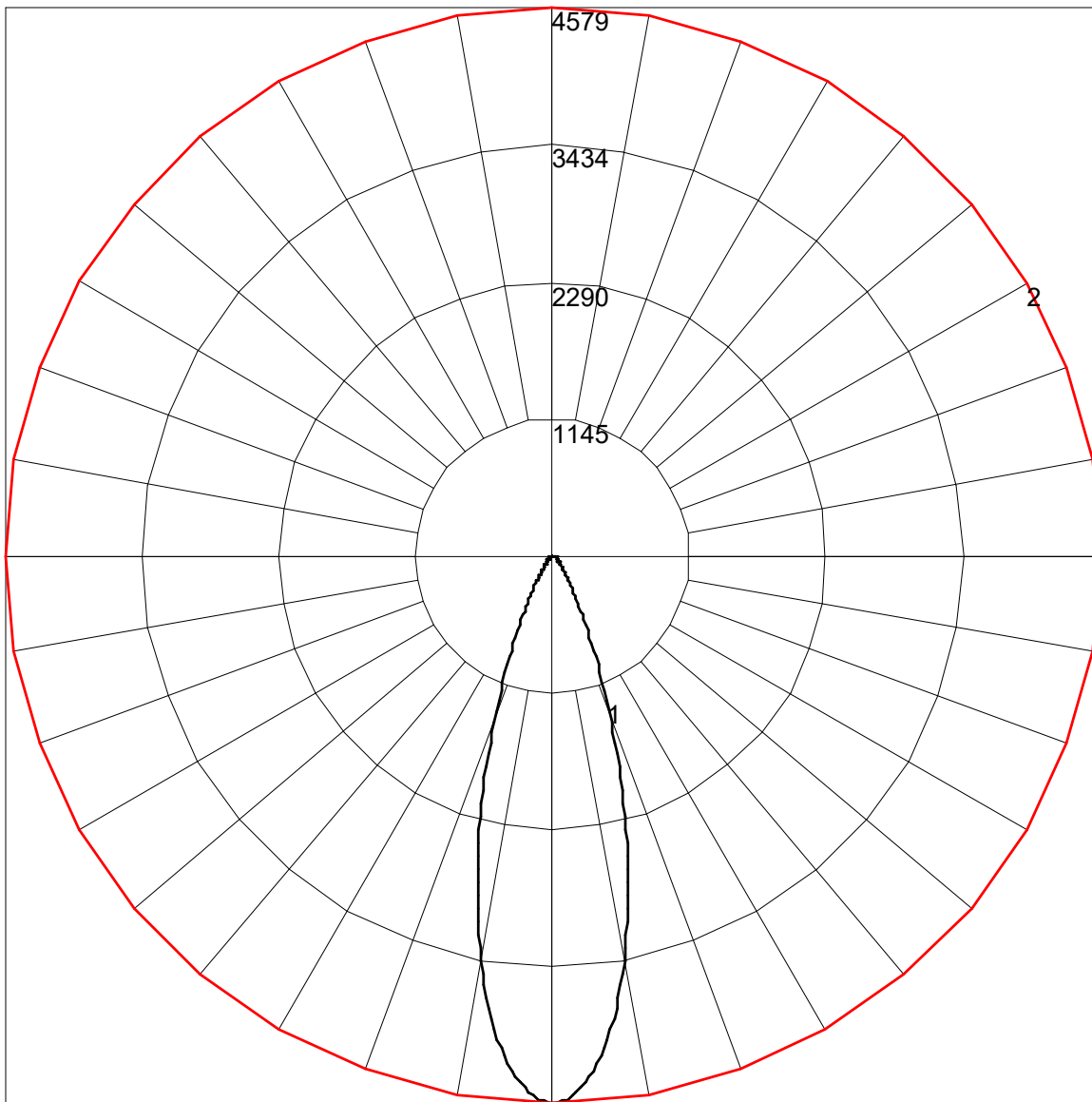
4H	2H	10.2	11.0	10.6	11.4	11.7	10.2	11.0	10.6	11.4	11.7
	3H	11.3	12.0	11.7	12.4	12.8	11.3	12.0	11.7	12.4	12.8
	4H	11.7	12.3	12.1	12.7	13.1	11.7	12.3	12.1	12.7	13.1
	6H	12.0	12.5	12.5	12.9	13.4	12.0	12.5	12.5	12.9	13.4
	8H	12.1	12.6	12.6	13.0	13.5	12.1	12.6	12.6	13.0	13.5
	12H	12.1	12.5	12.6	13.0	13.5	12.1	12.5	12.6	13.0	13.5

8H	4H	11.8	12.2	12.2	12.7	13.1	11.8	12.2	12.2	12.7	13.1
	6H	12.2	12.5	12.7	13.0	13.5	12.2	12.5	12.7	13.0	13.5
	8H	12.3	12.6	12.9	13.2	13.7	12.3	12.6	12.9	13.2	13.7
	12H	12.5	12.7	13.0	13.2	13.8	12.5	12.7	13.0	13.2	13.8

12H	4H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1
	6H	12.2	12.5	12.7	13.0	13.5	12.2	12.5	12.7	13.0	13.5
	8H	12.4	12.6	12.9	13.1	13.7	12.4	12.6	12.9	13.1	13.7

Maximum UGR = 13.8

POLAR GRAPH



Maximum Candela = 4579.102 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.)