



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-8TW-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] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P23-8TW-PoE-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	3052
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	88
Total Luminaire Watts	34.6
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	15275	15275	15275
55	10163	10163	10163
65	6996	6996	6996
75	4543	4543	4543
85	3662	3662	3662

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CANDELA TABULATION

	<u>0</u>
0.0	11447.153
0.5	11433.351
1.0	11397.120
1.5	11333.286
2.0	11247.022
2.5	11138.330
3.0	11008.935
3.5	10860.562
4.0	10693.211
4.5	10508.607
5.0	10308.476
5.5	10092.818
6.0	9861.632
6.5	9613.193
7.0	9350.953
7.5	9078.360
8.0	8795.416
8.5	8500.395
9.0	8200.199
9.5	7891.376
10.0	7580.828
10.5	7265.104
11.0	6947.654
11.5	6630.205
12.0	6314.481
12.5	6003.933
13.0	5695.110
13.5	5393.188
14.0	5096.442
14.5	4808.322
15.0	4530.554
15.5	4263.137
16.0	4002.622
16.5	3755.908
17.0	3519.547
17.5	3293.537
18.0	3079.603
18.5	2876.022
19.0	2684.517
19.5	2505.089
20.0	2336.013
20.5	2175.563
21.0	2025.465
21.5	1887.443
22.0	1754.598
22.5	1630.033
23.0	1511.335
23.5	1401.435
24.0	1298.954
24.5	1203.029
25.0	1113.488
25.5	1030.330
26.0	953.728
26.5	882.820

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CANDELA TABULATION - (Cont.)

27.0	817.432
27.5	757.220
28.0	701.839
28.5	651.461
29.0	605.051
29.5	562.437
30.0	523.274
30.5	487.043
31.0	454.091
31.5	423.726
32.0	395.604
32.5	369.725
33.0	346.089
33.5	324.350
34.0	304.165
34.5	285.704
35.0	268.969
35.5	253.442
36.0	239.295
36.5	226.355
37.0	214.451
37.5	203.582
38.0	193.575
38.5	184.431
39.0	176.150
39.5	168.386
40.0	161.140
40.5	154.411
41.0	148.201
41.5	142.335
42.0	136.986
42.5	131.983
43.0	127.152
43.5	122.667
44.0	118.526
44.5	114.558
45.0	110.935
45.5	107.312
46.0	104.034
46.5	100.756
47.0	97.650
47.5	94.545
48.0	91.612
48.5	88.851
49.0	86.091
49.5	83.503
50.0	80.915
50.5	78.500
51.0	76.084
51.5	73.841
52.0	71.599
52.5	69.528
53.0	67.458
53.5	65.388
54.0	63.490
54.5	61.765

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CANDELA TABULATION - (Cont.)

55.0	59.867
55.5	58.142
56.0	56.416
56.5	54.691
57.0	53.138
57.5	51.586
58.0	49.860
58.5	48.308
59.0	46.927
59.5	45.375
60.0	43.822
60.5	42.442
61.0	41.061
61.5	39.681
62.0	38.301
62.5	36.921
63.0	35.541
63.5	34.160
64.0	32.953
64.5	31.745
65.0	30.365
65.5	29.157
66.0	27.949
66.5	26.742
67.0	25.706
67.5	24.499
68.0	23.464
68.5	22.256
69.0	21.221
69.5	20.186
70.0	19.150
70.5	18.288
71.0	17.425
71.5	16.563
72.0	15.872
72.5	15.010
73.0	14.320
73.5	13.802
74.0	13.112
74.5	12.594
75.0	12.077
75.5	11.559
76.0	11.042
76.5	10.524
77.0	10.007
77.5	9.489
78.0	9.144
78.5	8.626
79.0	8.109
79.5	7.764
80.0	7.246
80.5	6.729
81.0	6.383
81.5	5.866
82.0	5.521
82.5	5.176

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CANDELA TABULATION - (Cont.)

83.0	4.658
83.5	4.313
84.0	3.968
84.5	3.623
85.0	3.278
85.5	2.933
86.0	2.415
86.5	2.243
87.0	1.898
87.5	1.553
88.0	1.208
88.5	0.863
89.0	0.690
89.5	0.518
90.0	0.345
90.5	0.345
91.0	0.173
91.5	0.000
92.0	0.173
92.5	0.173
93.0	0.173
93.5	0.173
94.0	0.000
94.5	0.173
95.0	0.173
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	0.173
103.0	0.000
103.5	0.173
104.0	0.173
104.5	0.173
105.0	0.173
105.5	0.173
106.0	0.173
106.5	0.173
107.0	0.173
107.5	0.000
108.0	0.173
108.5	0.173
109.0	0.173
109.5	0.173
110.0	0.173
110.5	0.173

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CANDELA TABULATION - (Cont.)

111.0	0.173
111.5	0.173
112.0	0.173
112.5	0.173
113.0	0.173
113.5	0.173
114.0	0.173
114.5	0.173
115.0	0.173
115.5	0.173
116.0	0.173
116.5	0.173
117.0	0.173
117.5	0.173
118.0	0.173
118.5	0.173
119.0	0.173
119.5	0.173
120.0	0.173
120.5	0.173
121.0	0.173
121.5	0.173
122.0	0.173
122.5	0.173
123.0	0.173
123.5	0.173
124.0	0.173
124.5	0.173
125.0	0.173
125.5	0.173
126.0	0.173
126.5	0.173
127.0	0.173
127.5	0.173
128.0	0.173
128.5	0.173
129.0	0.173
129.5	0.173
130.0	0.173
130.5	0.173
131.0	0.345
131.5	0.345
132.0	0.345
132.5	0.345
133.0	0.345
133.5	0.345
134.0	0.345
134.5	0.345
135.0	0.518
135.5	0.518
136.0	0.518
136.5	0.518
137.0	0.518
137.5	0.690
138.0	0.690
138.5	0.690

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CANDELA TABULATION - (Cont.)

139.0	0.690
139.5	0.863
140.0	0.863
140.5	0.863
141.0	1.035
141.5	1.035
142.0	1.035
142.5	1.208
143.0	1.208
143.5	1.208
144.0	1.380
144.5	1.380
145.0	1.553
145.5	1.553
146.0	1.725
146.5	1.725
147.0	1.898
147.5	1.898
148.0	2.070
148.5	2.070
149.0	2.243
149.5	2.243
150.0	2.415
150.5	2.415
151.0	2.588
151.5	2.588
152.0	2.760
152.5	2.760
153.0	2.933
153.5	2.933
154.0	3.105
154.5	3.105
155.0	3.278
155.5	3.278
156.0	3.451
156.5	3.451
157.0	3.451
157.5	3.623
158.0	3.623
158.5	3.796
159.0	3.796
159.5	3.796
160.0	3.968
160.5	3.968
161.0	3.968
161.5	3.968
162.0	4.141
162.5	4.141
163.0	4.141
163.5	4.141
164.0	4.141
164.5	4.141
165.0	4.141
165.5	4.141
166.0	4.313
166.5	4.141

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CANDELA TABULATION - (Cont.)

167.0	4.313
167.5	4.313
168.0	4.313
168.5	4.141
169.0	4.141
169.5	4.141
170.0	4.141
170.5	4.141
171.0	4.141
171.5	4.141
172.0	4.141
172.5	4.141
173.0	4.141
173.5	4.141
174.0	4.141
174.5	4.141
175.0	4.141
175.5	4.141
176.0	4.141
176.5	4.141
177.0	4.141
177.5	3.968
178.0	3.968
178.5	3.968
179.0	3.968
179.5	3.968
180.0	3.968

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2140.09	N.A.	70.10
0-30	2679.01	N.A.	87.80
0-40	2858.59	N.A.	93.70
0-60	3000.26	N.A.	98.30
0-80	3043.76	N.A.	99.70
0-90	3047.44	N.A.	99.80
10-90	2152.31	N.A.	70.50
20-40	718.50	N.A.	23.50
20-50	806.03	N.A.	26.40
40-70	172.07	N.A.	5.60
60-80	43.50	N.A.	1.40
70-80	13.10	N.A.	0.40
80-90	3.68	N.A.	0.10
90-110	0.22	N.A.	0.00
90-120	0.39	N.A.	0.00
90-130	0.54	N.A.	0.00
90-150	1.86	N.A.	0.10
90-180	4.89	N.A.	0.20
110-180	4.67	N.A.	0.20
0-180	3052.33	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	895.13
10-20	1244.96
20-30	538.92
30-40	179.58
40-50	87.54
50-60	54.14
60-70	30.40
70-80	13.10
80-90	3.68
90-100	0.09
100-110	0.12
110-120	0.17
120-130	0.16
130-140	0.37
140-150	0.95
150-160	1.46
160-170	1.17
170-180	0.39

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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	174	174	174	174	170	170	170	170	162	162	162	155	155	155	149	149	149	146
1	167	163	160	158	163	160	158	155	154	152	150	149	147	146	144	143	141	139
2	160	154	150	145	157	152	148	144	147	144	141	143	140	138	139	137	135	132
3	154	147	141	136	152	145	139	135	141	136	133	138	134	131	134	131	129	127
4	149	140	133	128	146	138	132	128	135	130	126	132	128	125	130	126	123	121
5	143	134	127	122	141	132	126	121	130	125	120	128	123	119	126	122	118	116
6	139	128	121	116	137	127	121	116	125	120	115	123	118	115	122	117	114	112
7	134	123	116	112	132	122	116	111	121	115	111	119	114	110	118	113	110	108
8	130	119	112	107	128	118	112	107	117	111	107	115	110	106	114	109	106	104
9	126	115	108	104	124	114	108	103	113	107	103	112	107	103	111	106	102	101
10	122	111	105	100	121	111	104	100	109	104	100	108	103	100	108	103	99	98

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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	10.7	11.7	11.1	12.0	12.3	UGR Viewed Endwise	10.7	11.7	11.1	12.0	12.3
	3H	11.6	12.5	12.0	12.8	13.2		11.6	12.5	12.0	12.8	13.2
	4H	11.8	12.6	12.3	13.0	13.4		11.8	12.6	12.3	13.0	13.4
	6H	12.0	12.7	12.4	13.1	13.5		12.0	12.7	12.4	13.1	13.5
	8H	12.1	12.7	12.5	13.1	13.5		12.1	12.7	12.5	13.1	13.5
	12H	12.1	12.7	12.5	13.1	13.5		12.1	12.7	12.5	13.1	13.5

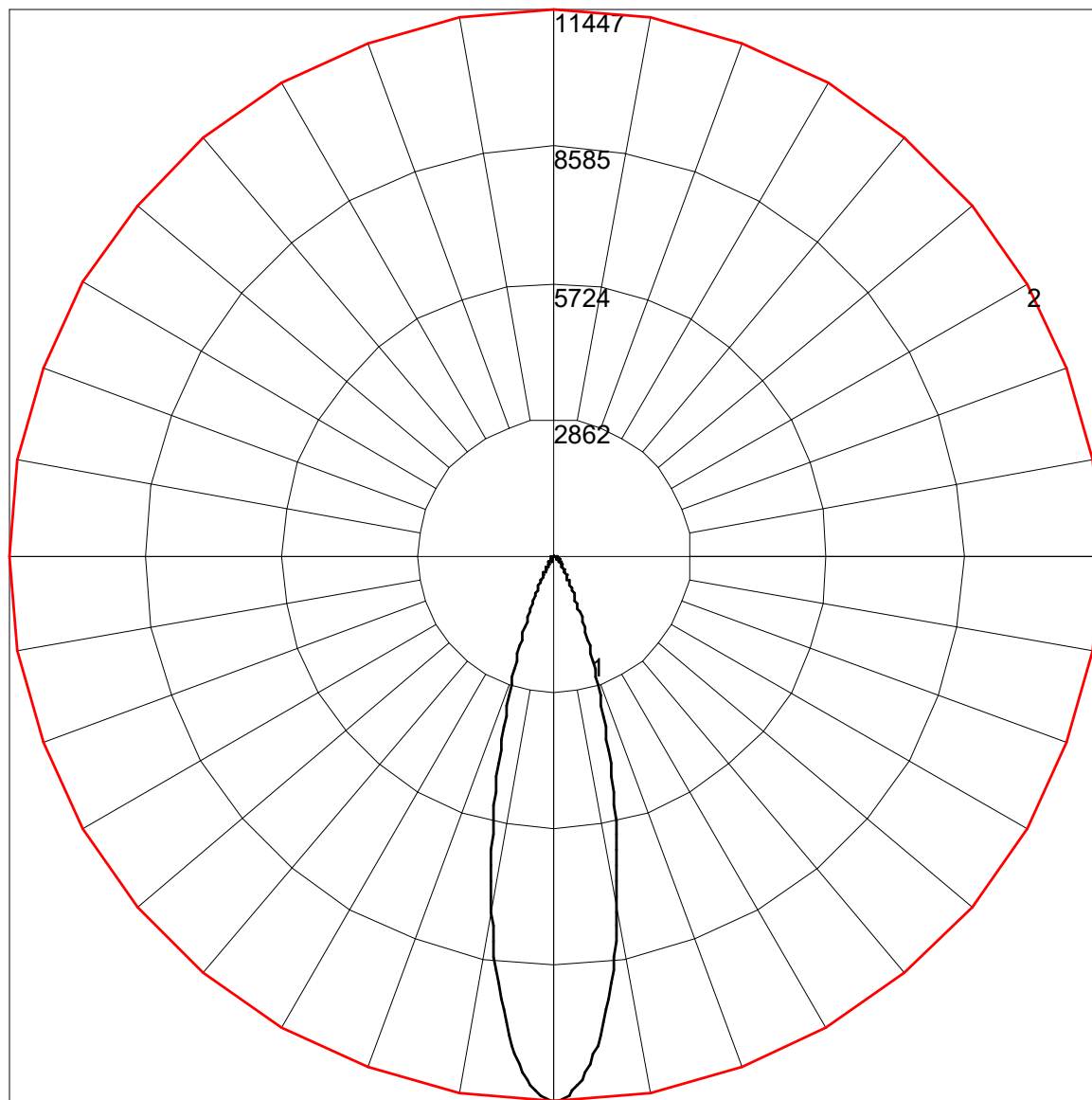
4H	2H	11.0	11.8	11.4	12.1	12.5	11.0	11.8	11.4	12.1	12.5
	3H	12.0	12.6	12.4	13.0	13.5	12.0	12.6	12.4	13.0	13.5
	4H	12.3	12.9	12.8	13.3	13.8	12.3	12.9	12.8	13.3	13.8
	6H	12.6	13.1	13.1	13.5	14.0	12.6	13.1	13.1	13.5	14.0
	8H	12.7	13.1	13.1	13.6	14.1	12.7	13.1	13.1	13.6	14.1
	12H	12.7	13.1	13.2	13.6	14.1	12.7	13.1	13.2	13.6	14.1

8H	4H	12.4	12.8	12.8	13.3	13.7	12.4	12.8	12.8	13.3	13.7
	6H	12.7	13.1	13.2	13.6	14.1	12.7	13.1	13.2	13.6	14.1
	8H	12.9	13.2	13.4	13.7	14.2	12.9	13.2	13.4	13.7	14.2
	12H	13.0	13.3	13.5	13.8	14.3	13.0	13.3	13.5	13.8	14.3

12H	4H	12.3	12.7	12.8	13.2	13.7	12.3	12.7	12.8	13.2	13.7
	6H	12.7	13.0	13.3	13.5	14.1	12.7	13.0	13.3	13.5	14.1
	8H	12.9	13.2	13.4	13.7	14.3	12.9	13.2	13.4	13.7	14.3

Maximum UGR = 14.3

POLAR GRAPH



Maximum Candela = 11447.153 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.)