



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-8TW-POE-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.

[ISSUEDATE] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P23-8TW-POE x-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	2284
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	66
Total Luminaire Watts	34.6
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	52822	52822	52822
55	42651	42651	42651
65	27591	27591	27591
75	15385	15385	15385
85	7904	7904	7904

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CANDELA TABULATION

	<u>0</u>
0.0	1834.337
0.5	1834.337
1.0	1832.612
1.5	1829.160
2.0	1825.709
2.5	1822.258
3.0	1817.081
3.5	1811.904
4.0	1806.727
4.5	1799.825
5.0	1794.648
5.5	1787.745
6.0	1780.843
6.5	1773.940
7.0	1767.038
7.5	1760.135
8.0	1753.233
8.5	1744.605
9.0	1737.702
9.5	1730.800
10.0	1724.243
10.5	1717.167
11.0	1709.920
11.5	1702.845
12.0	1696.115
12.5	1689.385
13.0	1682.655
13.5	1675.753
14.0	1668.850
14.5	1661.948
15.0	1654.872
15.5	1647.625
16.0	1640.032
16.5	1632.439
17.0	1624.674
17.5	1616.391
18.0	1607.590
18.5	1598.099
19.0	1588.954
19.5	1579.118
20.0	1568.419
20.5	1556.167
21.0	1542.017
21.5	1526.659
22.0	1509.057
22.5	1489.558
23.0	1467.470
23.5	1442.621
24.0	1415.356
24.5	1384.467
25.0	1349.955
25.5	1311.819
26.0	1270.576
26.5	1226.745

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CANDELA TABULATION - (Cont.)

27.0	1180.671
27.5	1133.907
28.0	1084.899
28.5	1036.409
29.0	988.092
29.5	939.774
30.0	892.320
30.5	845.728
31.0	801.724
31.5	759.102
32.0	718.895
32.5	681.449
33.0	646.764
33.5	615.530
34.0	587.402
34.5	562.898
35.0	541.328
35.5	523.036
36.0	506.988
36.5	493.528
37.0	481.621
37.5	471.440
38.0	462.122
38.5	453.839
39.0	446.419
39.5	439.689
40.0	433.649
40.5	427.955
41.0	422.433
41.5	417.428
42.0	412.424
42.5	407.765
43.0	403.106
43.5	398.274
44.0	393.442
44.5	388.610
45.0	383.606
45.5	378.429
46.0	373.080
46.5	367.558
47.0	361.863
47.5	355.996
48.0	350.129
48.5	343.917
49.0	337.532
49.5	330.802
50.0	324.072
50.5	317.170
51.0	309.922
51.5	302.847
52.0	295.599
52.5	288.352
53.0	281.449
53.5	273.856
54.0	266.264
54.5	258.671

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CANDELA TABULATION - (Cont.)

55.0	251.251
55.5	243.658
56.0	236.238
56.5	228.990
57.0	221.743
57.5	214.495
58.0	207.420
58.5	200.517
59.0	193.615
59.5	186.885
60.0	180.155
60.5	173.598
61.0	167.213
61.5	160.828
62.0	154.788
62.5	148.576
63.0	142.709
63.5	136.669
64.0	130.975
64.5	125.280
65.0	119.758
65.5	114.236
66.0	108.887
66.5	103.710
67.0	98.706
67.5	93.701
68.0	88.870
68.5	84.038
69.0	79.379
69.5	74.892
70.0	70.751
70.5	66.782
71.0	63.158
71.5	59.707
72.0	56.428
72.5	53.322
73.0	50.388
73.5	47.800
74.0	45.211
74.5	42.968
75.0	40.897
75.5	38.999
76.0	36.928
76.5	35.030
77.0	33.132
77.5	31.234
78.0	29.508
78.5	27.610
79.0	25.884
79.5	24.159
80.0	22.433
80.5	20.707
81.0	19.154
81.5	17.601
82.0	15.876
82.5	14.495

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CANDELA TABULATION - (Cont.)

83.0	12.942
83.5	11.389
84.0	10.009
84.5	8.456
85.0	7.075
85.5	5.867
86.0	4.659
86.5	3.796
87.0	2.934
87.5	2.243
88.0	1.553
88.5	1.035
89.0	0.518
89.5	0.173
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

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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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125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
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128.0	0.000
128.5	0.000
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130.0	0.000
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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

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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
148.0	0.000
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150.0	0.000
150.5	0.000
151.0	0.000
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154.0	0.000
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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	634.93	N.A.	27.80
0-30	1228.66	N.A.	53.80
0-40	1590.48	N.A.	69.60
0-60	2109.22	N.A.	92.40
0-80	2274.27	N.A.	99.60
0-90	2283.6	N.A.	100.00
10-90	2114.66	N.A.	92.60
20-40	955.55	N.A.	41.80
20-50	1249.94	N.A.	54.70
40-70	638.71	N.A.	28.00
60-80	165.05	N.A.	7.20
70-80	45.07	N.A.	2.00
80-90	9.33	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	2283.6	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	168.94
10-20	465.98
20-30	593.74
30-40	361.82
40-50	294.38
50-60	224.35
60-70	119.98
70-80	45.07
80-90	9.33
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

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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	163	158	153	149	159	155	151	147	149	145	142	143	141	138	138	136	134	131
2	152	143	136	129	149	141	134	128	136	130	125	131	126	122	127	123	120	117
3	142	130	121	114	139	128	120	113	124	117	111	120	114	109	117	112	108	105
4	133	119	109	102	130	117	108	101	114	106	100	111	104	98	108	102	97	95
5	125	110	99	91	122	108	98	91	105	97	90	103	95	89	100	94	88	86
6	117	101	91	83	115	100	90	83	98	89	82	95	88	82	93	86	81	78
7	110	94	83	76	108	93	83	76	91	82	75	89	81	75	87	80	74	72
8	104	88	77	70	102	87	77	70	85	76	70	83	75	69	82	74	69	67
9	98	82	72	65	96	81	71	65	80	71	65	78	70	64	77	69	64	62
10	93	77	67	60	92	76	67	60	75	66	60	74	66	60	72	65	60	58

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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	21.2	22.5	21.5	22.8	23.1	21.2	22.5	21.5	22.8	23.1
	3H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	4H	22.1	23.2	22.5	23.5	23.9	22.1	23.2	22.5	23.5	23.9
	6H	22.2	23.2	22.6	23.6	24.0	22.2	23.2	22.6	23.6	24.0
	8H	22.2	23.2	22.6	23.6	24.0	22.2	23.2	22.6	23.6	24.0
	12H	22.2	23.1	22.6	23.5	23.9	22.2	23.1	22.6	23.5	23.9

UGR Viewed Endwise

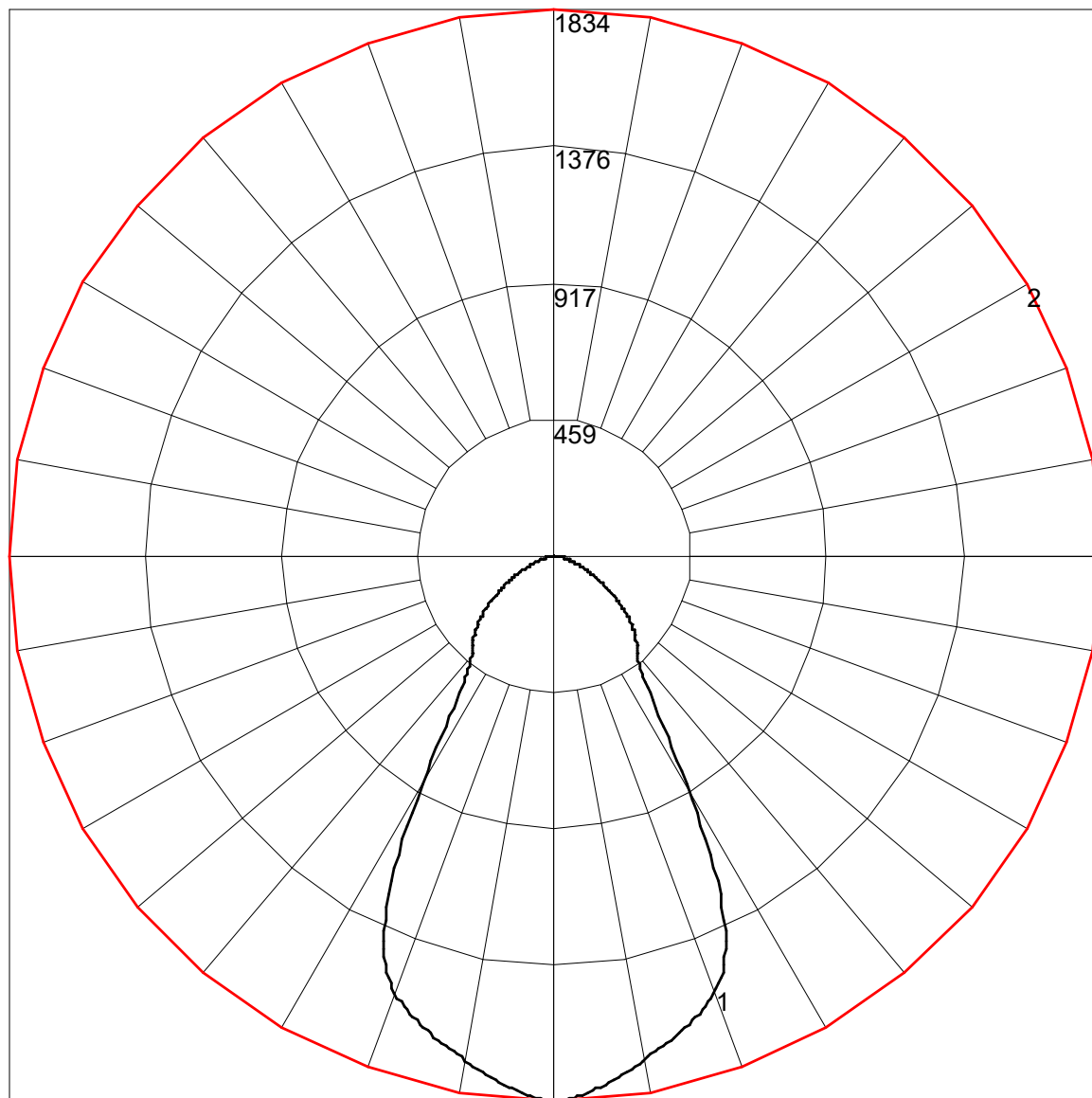
4H	2H	21.4	22.5	21.8	22.9	23.3	21.4	22.5	21.8	22.9	23.3
	3H	22.3	23.2	22.7	23.6	24.0	22.3	23.2	22.7	23.6	24.0
	4H	22.6	23.4	23.0	23.8	24.2	22.6	23.4	23.0	23.8	24.2
	6H	22.7	23.4	23.2	23.9	24.3	22.7	23.4	23.2	23.9	24.3
	8H	22.8	23.4	23.2	23.9	24.3	22.8	23.4	23.2	23.9	24.3
	12H	22.8	23.3	23.3	23.8	24.3	22.8	23.3	23.3	23.8	24.3

8H	4H	22.6	23.2	23.1	23.7	24.2	22.6	23.2	23.1	23.7	24.2
	6H	22.8	23.4	23.3	23.9	24.3	22.8	23.4	23.3	23.9	24.3
	8H	22.9	23.4	23.4	23.9	24.4	22.9	23.4	23.4	23.9	24.4
	12H	22.9	23.3	23.4	23.8	24.4	22.9	23.3	23.4	23.8	24.4

12H	4H	22.6	23.1	23.1	23.6	24.1	22.6	23.1	23.1	23.6	24.1
	6H	22.8	23.3	23.3	23.8	24.3	22.8	23.3	23.3	23.8	24.3
	8H	22.9	23.3	23.4	23.8	24.4	22.9	23.3	23.4	23.8	24.4

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 1834.337 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.)