



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-8TW-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.

[ISSUE DATE] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P23-8TW-PoE-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	3097
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	34.6
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	17767	17767	17767
55	12357	12357	12357
65	8823	8823	8823
75	5906	5906	5906
85	4818	4818	4818

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CANDELA TABULATION

	<u>0</u>
0.0	8928.600
0.5	8921.700
1.0	8901.000
1.5	8868.225
2.0	8823.375
2.5	8766.450
3.0	8699.175
3.5	8619.825
4.0	8528.400
4.5	8430.075
5.0	8321.400
5.5	8200.650
6.0	8071.275
6.5	7933.275
7.0	7784.925
7.5	7626.225
8.0	7460.625
8.5	7284.675
9.0	7103.550
9.5	6915.525
10.0	6720.600
10.5	6520.500
11.0	6315.225
11.5	6106.500
12.0	5894.325
12.5	5683.875
13.0	5473.425
13.5	5261.250
14.0	5047.350
14.5	4833.450
15.0	4623.000
15.5	4414.275
16.0	4205.550
16.5	4002.000
17.0	3800.175
17.5	3601.800
18.0	3406.875
18.5	3217.125
19.0	3036.000
19.5	2858.325
20.0	2685.825
20.5	2521.950
21.0	2363.250
21.5	2211.450
22.0	2068.275
22.5	1932.000
23.0	1804.350
23.5	1682.220
24.0	1566.645
24.5	1457.798
25.0	1356.023
25.5	1261.320
26.0	1173.000
26.5	1090.200

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CANDELA TABULATION - (Cont.)

27.0	1013.265
27.5	942.023
28.0	875.783
28.5	814.028
29.0	757.448
29.5	704.663
30.0	655.845
30.5	610.995
31.0	569.595
31.5	531.300
32.0	495.938
32.5	463.508
33.0	433.493
33.5	405.548
34.0	380.018
34.5	356.213
35.0	334.305
35.5	314.123
36.0	295.320
36.5	278.070
37.0	262.028
37.5	247.538
38.0	234.083
38.5	222.008
39.0	210.795
39.5	200.618
40.0	191.475
40.5	182.850
41.0	175.088
41.5	167.843
42.0	161.115
42.5	154.905
43.0	149.040
43.5	143.520
44.0	138.345
44.5	133.515
45.0	129.030
45.5	124.890
46.0	120.923
46.5	117.128
47.0	113.505
47.5	110.228
48.0	107.123
48.5	104.018
49.0	101.085
49.5	98.325
50.0	95.738
50.5	93.150
51.0	90.735
51.5	88.148
52.0	85.905
52.5	83.490
53.0	81.420
53.5	79.178
54.0	76.935
54.5	74.865

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CANDELA TABULATION - (Cont.)

55.0	72.795
55.5	70.725
56.0	68.828
56.5	66.930
57.0	65.033
57.5	63.135
58.0	61.238
58.5	59.513
59.0	57.788
59.5	56.063
60.0	54.338
60.5	52.613
61.0	50.888
61.5	49.335
62.0	47.610
62.5	46.058
63.0	44.333
63.5	42.780
64.0	41.228
64.5	39.675
65.0	38.295
65.5	36.743
66.0	35.363
66.5	33.810
67.0	32.430
67.5	31.050
68.0	29.670
68.5	28.463
69.0	27.083
69.5	25.875
70.0	24.668
70.5	23.633
71.0	22.598
71.5	21.563
72.0	20.528
72.5	19.665
73.0	18.803
73.5	17.940
74.0	17.250
74.5	16.388
75.0	15.698
75.5	15.008
76.0	14.318
76.5	13.800
77.0	13.110
77.5	12.420
78.0	11.903
78.5	11.213
79.0	10.695
79.5	10.178
80.0	9.488
80.5	8.970
81.0	8.453
81.5	7.935
82.0	7.245
82.5	6.728

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CANDELA TABULATION - (Cont.)

83.0	6.210
83.5	5.693
84.0	5.175
84.5	4.658
85.0	4.313
85.5	3.795
86.0	3.278
86.5	2.760
87.0	2.415
87.5	2.070
88.0	1.725
88.5	1.380
89.0	1.208
89.5	0.863
90.0	0.690
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
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
130.5	0.000
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

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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
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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1997.92	N.A.	64.50
0-30	2646.31	N.A.	85.40
0-40	2868.79	N.A.	92.60
0-60	3036.98	N.A.	98.10
0-80	3092.2	N.A.	99.80
0-90	3097.1	N.A.	100.00
10-90	2354.31	N.A.	76.00
20-40	870.87	N.A.	28.10
20-50	973.46	N.A.	31.40
40-70	206.34	N.A.	6.70
60-80	55.22	N.A.	1.80
70-80	17.07	N.A.	0.60
80-90	4.89	N.A.	0.20
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3097.11	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	742.78
10-20	1255.14
20-30	648.39
30-40	222.48
40-50	102.58
50-60	65.61
60-70	38.15
70-80	17.07
80-90	4.89
90-100	0.02
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	167	163	160	157	163	160	157	154	154	152	149	149	147	145	144	142	141	138
2	160	153	148	144	156	151	146	142	146	142	139	142	139	136	138	135	133	131
3	153	145	139	134	150	143	137	133	139	134	130	136	132	128	133	129	126	124
4	147	138	131	125	145	136	130	125	133	127	123	130	126	122	128	124	120	118
5	141	131	124	118	139	130	123	118	127	121	117	125	120	116	123	118	115	113
6	136	125	118	113	134	124	117	112	122	116	111	120	115	111	118	114	110	108
7	131	120	112	107	129	119	112	107	117	111	107	116	110	106	114	109	105	104
8	127	115	108	103	125	114	107	103	113	107	102	111	106	102	110	105	101	100
9	122	111	103	99	121	110	103	98	109	103	98	108	102	98	106	101	98	96
10	118	107	100	95	117	106	99	95	105	99	95	104	98	94	103	98	94	93

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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

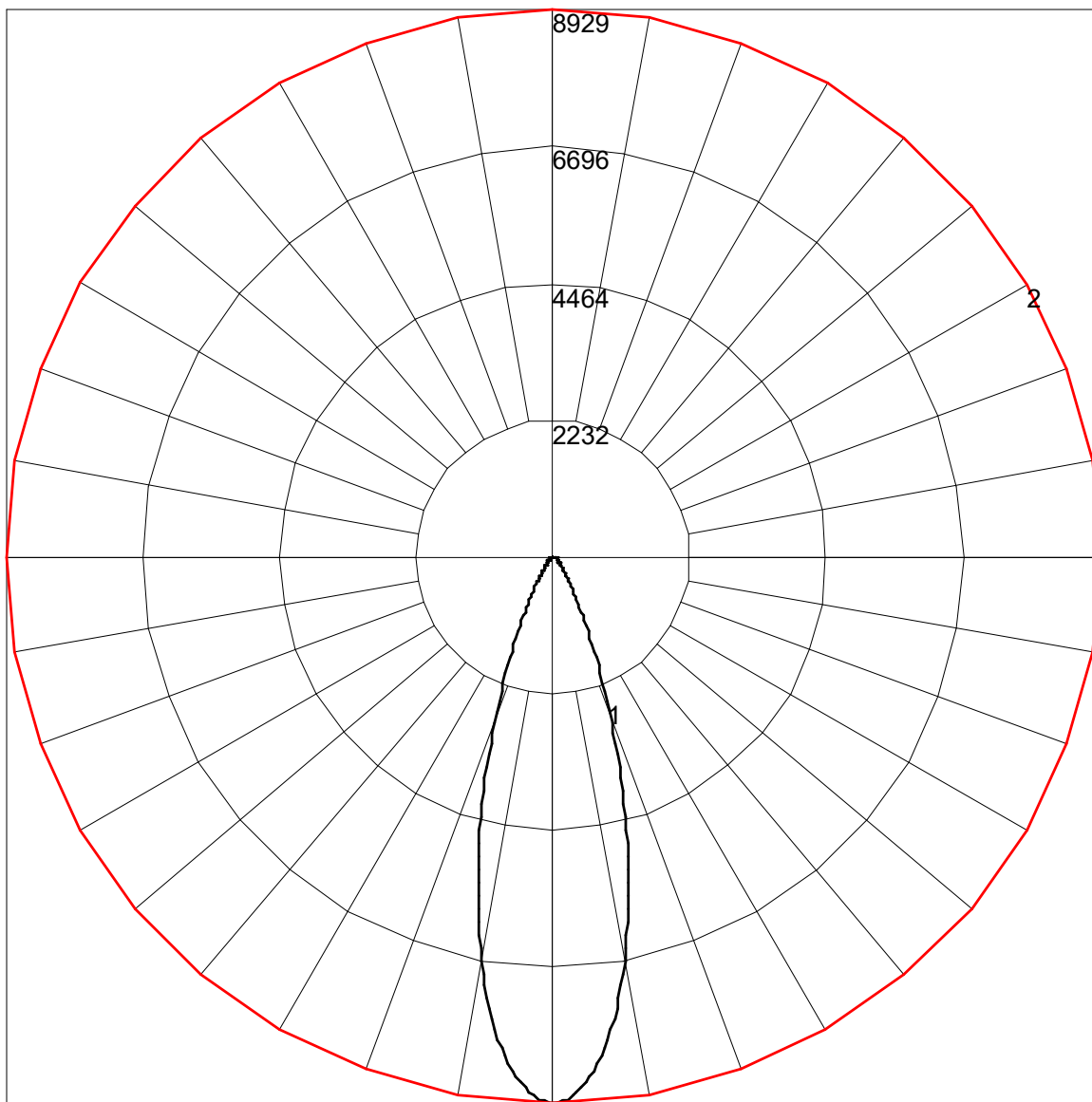
X=2H	Y=2H	12.0	13.0	12.4	13.3	13.6	12.0	13.0	12.4	13.3	13.6
	3H	13.0	13.8	13.3	14.2	14.5	13.0	13.8	13.3	14.2	14.5
	4H	13.3	14.1	13.7	14.4	14.8	13.3	14.1	13.7	14.4	14.8
	6H	13.5	14.2	13.9	14.6	15.0	13.5	14.2	13.9	14.6	15.0
	8H	13.5	14.2	14.0	14.6	15.0	13.5	14.2	14.0	14.6	15.0
	12H	13.6	14.2	14.0	14.6	15.0	13.6	14.2	14.0	14.6	15.0

UGR Viewed Endwise

4H	2H	12.3	13.1	12.7	13.5	13.8	12.3	13.1	12.7	13.5	13.8
	3H	13.4	14.1	13.8	14.5	14.9	13.4	14.1	13.8	14.5	14.9
	4H	13.8	14.4	14.2	14.8	15.2	13.8	14.4	14.2	14.8	15.2
	6H	14.1	14.6	14.6	15.0	15.5	14.1	14.6	14.6	15.0	15.5
	8H	14.2	14.7	14.7	15.1	15.6	14.2	14.7	14.7	15.1	15.6
	12H	14.2	14.6	14.7	15.1	15.6	14.2	14.6	14.7	15.1	15.6
8H	4H	13.9	14.3	14.3	14.8	15.2	13.9	14.3	14.3	14.8	15.2
	6H	14.3	14.6	14.8	15.1	15.6	14.3	14.6	14.8	15.1	15.6
	8H	14.4	14.7	15.0	15.3	15.8	14.4	14.7	15.0	15.3	15.8
	12H	14.6	14.8	15.1	15.3	15.9	14.6	14.8	15.1	15.3	15.9
12H	4H	13.8	14.2	14.3	14.7	15.2	13.8	14.2	14.3	14.7	15.2
	6H	14.3	14.6	14.8	15.1	15.6	14.3	14.6	14.8	15.1	15.6
	8H	14.5	14.7	15.0	15.2	15.8	14.5	14.7	15.0	15.2	15.8

Maximum UGR = 15.9

POLAR GRAPH



Maximum Candela = 8928.6 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.)