



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-8TW-POE-LN-OF-WH_4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.10

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P23-8TW-PoE-LN-OF-WH 4000k

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

[MORE] tic optic, clear glass patterned 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	3160
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	91
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)	0.44
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	20752	20752	20752
55	15567	15567	15567
65	12881	12881	12881
75	10480	10480	10480
85	5836	5836	5836

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CANDELA TABULATION

	<u>0</u>
0.0	11869.740
0.5	11855.948
1.0	11816.296
1.5	11754.232
2.0	11666.308
2.5	11557.696
3.0	11426.672
3.5	11274.960
4.0	11102.560
4.5	10912.920
5.0	10707.764
5.5	10485.368
6.0	10247.456
6.5	9990.580
7.0	9719.912
7.5	9437.176
8.0	9137.200
8.5	8828.604
9.0	8509.664
9.5	8183.828
10.0	7852.820
10.5	7516.640
11.0	7173.564
11.5	6830.488
12.0	6490.860
12.5	6152.956
13.0	5820.224
13.5	5492.664
14.0	5173.724
14.5	4865.128
15.0	4568.600
15.5	4282.416
16.0	4008.300
16.5	3746.252
17.0	3499.720
17.5	3263.532
18.0	3041.136
18.5	2832.532
19.0	2637.720
19.5	2456.700
20.0	2286.024
20.5	2123.968
21.0	1972.256
21.5	1834.336
22.0	1701.416
22.5	1577.805
23.0	1462.297
23.5	1355.409
24.0	1255.934
24.5	1162.838
25.0	1077.155
25.5	998.196
26.0	924.926
26.5	857.690

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CANDELA TABULATION - (Cont.)

27.0	795.626
27.5	738.734
28.0	686.669
28.5	638.914
29.0	595.125
29.5	554.783
30.0	518.062
30.5	484.272
31.0	453.240
31.5	424.966
32.0	399.278
32.5	375.315
33.0	353.420
33.5	333.249
34.0	314.975
34.5	298.080
35.0	282.736
35.5	268.772
36.0	255.669
36.5	243.774
37.0	232.912
37.5	222.741
38.0	213.604
38.5	205.156
39.0	197.226
39.5	189.812
40.0	182.916
40.5	176.538
41.0	170.676
41.5	165.159
42.0	159.987
42.5	155.160
43.0	150.505
43.5	146.195
44.0	142.058
44.5	138.092
45.0	134.300
45.5	130.852
46.0	127.404
46.5	124.128
47.0	121.025
47.5	117.922
48.0	114.991
48.5	112.060
49.0	109.302
49.5	106.543
50.0	103.957
50.5	101.544
51.0	98.958
51.5	96.716
52.0	94.303
52.5	92.062
53.0	89.993
53.5	87.752
54.0	85.683
54.5	83.786

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CANDELA TABULATION - (Cont.)

55.0	81.718
55.5	79.821
56.0	77.925
56.5	76.028
57.0	74.304
57.5	72.580
58.0	70.856
58.5	69.132
59.0	67.581
59.5	66.029
60.0	64.478
60.5	62.926
61.0	61.374
61.5	59.823
62.0	58.271
62.5	56.892
63.0	55.340
63.5	53.961
64.0	52.582
64.5	51.203
65.0	49.824
65.5	48.444
66.0	47.065
66.5	45.686
67.0	44.479
67.5	43.100
68.0	41.893
68.5	40.514
69.0	39.307
69.5	37.928
70.0	36.721
70.5	35.514
71.0	34.308
71.5	33.101
72.0	31.894
72.5	30.687
73.0	29.480
73.5	28.274
74.0	27.067
74.5	26.032
75.0	24.826
75.5	23.619
76.0	22.584
76.5	21.378
77.0	20.343
77.5	19.136
78.0	18.102
78.5	17.068
79.0	16.033
79.5	14.999
80.0	13.964
80.5	12.930
81.0	11.896
81.5	11.034
82.0	9.999
82.5	9.137

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CANDELA TABULATION - (Cont.)

83.0	8.103
83.5	7.241
84.0	6.379
84.5	5.517
85.0	4.655
85.5	3.965
86.0	3.448
86.5	2.758
87.0	2.241
87.5	1.896
88.0	1.379
88.5	1.034
89.0	0.690
89.5	0.517
90.0	0.345
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
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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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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	2187.58	N.A.	69.20
0-30	2711.62	N.A.	85.80
0-40	2899.05	N.A.	91.70
0-60	3078.23	N.A.	97.40
0-80	3154.08	N.A.	99.80
0-90	3160.17	N.A.	100.00
10-90	2230.69	N.A.	70.60
20-40	711.47	N.A.	22.50
20-50	816.95	N.A.	25.90
40-70	228.69	N.A.	7.20
60-80	75.85	N.A.	2.40
70-80	26.34	N.A.	0.80
80-90	6.09	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	3160.18	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	929.47
10-20	1258.11
20-30	524.04
30-40	187.42
40-50	105.48
50-60	73.70
60-70	49.51
70-80	26.34
80-90	6.09
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	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	150	149	147	145	144	142	141	139
2	160	154	149	144	157	151	147	143	147	143	140	142	139	137	138	136	134	132
3	154	146	139	135	151	144	138	133	140	135	131	137	133	129	133	130	127	125
4	148	139	132	127	145	137	131	126	134	129	125	131	127	123	129	125	122	120
5	143	132	125	120	140	131	125	120	129	123	119	126	122	118	124	120	117	115
6	138	127	120	115	136	126	119	114	124	118	114	122	117	113	120	116	112	111
7	133	122	115	110	131	121	115	110	119	114	109	118	113	109	116	112	108	106
8	129	118	111	106	127	117	110	106	115	109	105	114	109	105	113	108	104	103
9	125	114	107	102	123	113	106	102	112	106	102	111	105	101	109	105	101	99
10	121	110	103	99	120	109	103	99	108	102	98	107	102	98	106	101	98	96

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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	13.3	14.3	13.7	14.6	15.0	UGR Viewed Endwise	13.3	14.3	13.7	14.6	15.0
	3H	14.8	15.7	15.2	16.0	16.4		14.8	15.7	15.2	16.0	16.4
	4H	15.3	16.1	15.7	16.5	16.9		15.3	16.1	15.7	16.5	16.9
	6H	15.6	16.4	16.0	16.7	17.1		15.6	16.4	16.0	16.7	17.1
	8H	15.7	16.4	16.1	16.8	17.2		15.7	16.4	16.1	16.8	17.2
	12H	15.7	16.4	16.2	16.8	17.2		15.7	16.4	16.2	16.8	17.2

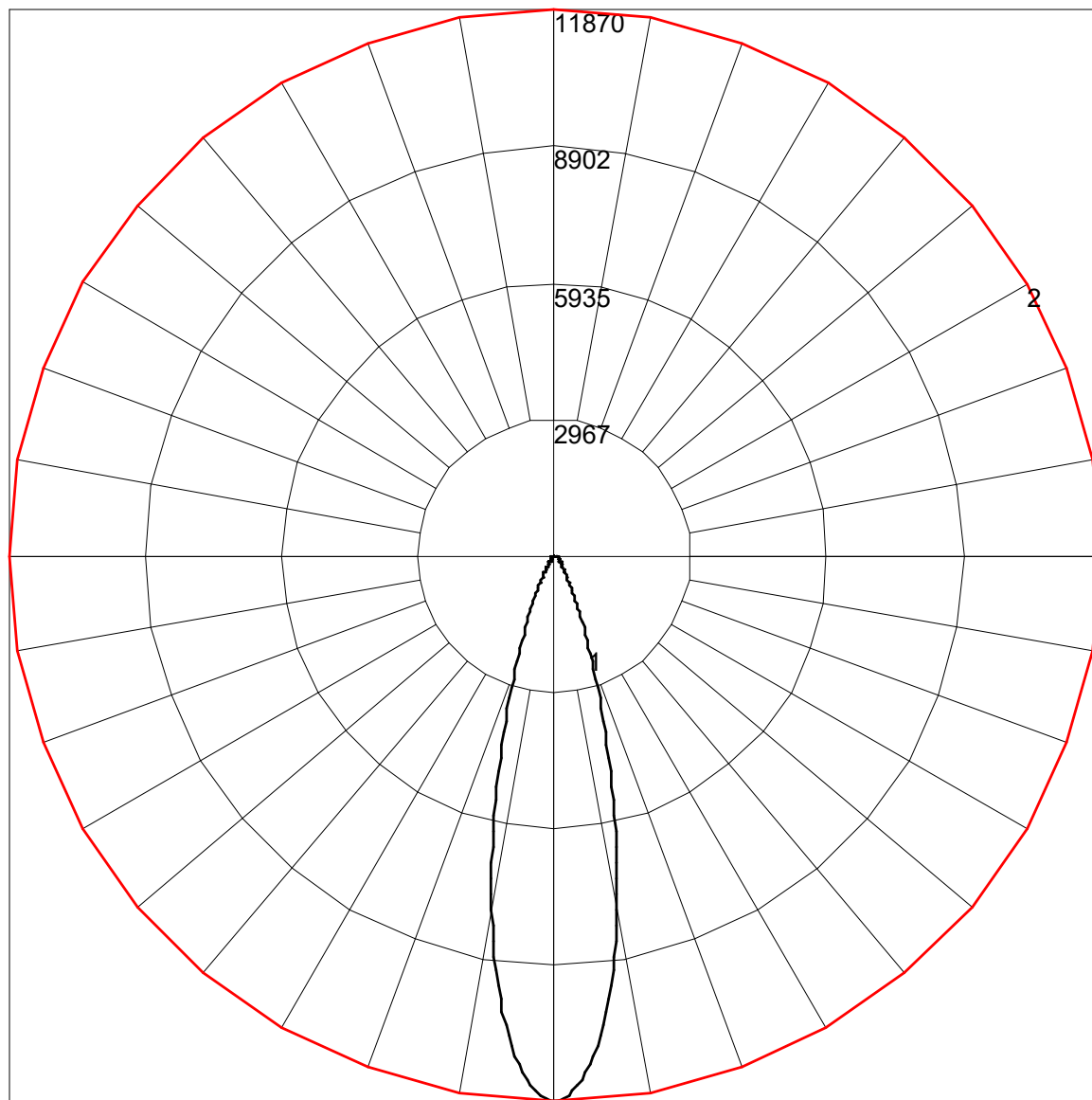
4H	2H	13.8	14.6	14.2	14.9	15.3	13.8	14.6	14.2	14.9	15.3
	3H	15.4	16.1	15.8	16.5	16.9	15.4	16.1	15.8	16.5	16.9
	4H	16.0	16.6	16.5	17.0	17.5	16.0	16.6	16.5	17.0	17.5
	6H	16.5	17.0	16.9	17.4	17.9	16.5	17.0	16.9	17.4	17.9
	8H	16.6	17.0	17.1	17.5	18.0	16.6	17.0	17.1	17.5	18.0
	12H	16.6	17.0	17.1	17.5	18.0	16.6	17.0	17.1	17.5	18.0

8H	4H	16.2	16.7	16.7	17.1	17.6	16.2	16.7	16.7	17.1	17.6
	6H	16.7	17.1	17.3	17.6	18.1	16.7	17.1	17.3	17.6	18.1
	8H	16.9	17.2	17.4	17.7	18.2	16.9	17.2	17.4	17.7	18.2
	12H	17.0	17.3	17.5	17.8	18.3	17.0	17.3	17.5	17.8	18.3

12H	4H	16.2	16.6	16.7	17.1	17.5	16.2	16.6	16.7	17.1	17.5
	6H	16.8	17.1	17.3	17.5	18.1	16.8	17.1	17.3	17.5	18.1
	8H	16.9	17.2	17.5	17.7	18.3	16.9	17.2	17.5	17.7	18.3

Maximum UGR = 18.3

POLAR GRAPH



Maximum Candela = 11869.74 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.)