



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P12-835-POE X-LM-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.09

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 21 SEP 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P12-835-PoE-LM-OF-WH

[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	1544
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	88
Total Luminaire Watts	17.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.54
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	11716	11716	11716
55	9132	9132	9132
65	7632	7632	7632
75	6140	6140	6140
85	3668	3668	3668

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CANDELA TABULATION

	<u>0</u>
0.0	3995.121
0.5	3993.400
1.0	3987.375
1.5	3977.908
2.0	3965.859
2.5	3949.507
3.0	3930.573
3.5	3908.196
4.0	3882.376
4.5	3854.836
5.0	3823.852
5.5	3789.426
6.0	3751.558
6.5	3709.386
7.0	3663.772
7.5	3613.855
8.0	3559.634
8.5	3501.110
9.0	3439.143
9.5	3372.013
10.0	3299.719
10.5	3222.260
11.0	3141.360
11.5	3056.156
12.0	2965.788
12.5	2871.977
13.0	2773.864
13.5	2672.307
14.0	2566.448
14.5	2457.146
15.0	2346.983
15.5	2235.099
16.0	2123.215
16.5	2010.470
17.0	1898.586
17.5	1790.145
18.0	1682.564
18.5	1579.286
19.0	1480.312
19.5	1384.780
20.0	1294.412
20.5	1207.487
21.0	1126.586
21.5	1049.989
22.0	977.694
22.5	910.564
23.0	847.220
23.5	788.180
24.0	733.357
24.5	682.148
25.0	634.641
25.5	590.490
26.0	549.092
26.5	510.880

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	475.249
<b>27.5</b>	442.630
<b>28.0</b>	412.250
<b>28.5</b>	384.193
<b>29.0</b>	358.459
<b>29.5</b>	334.447
<b>30.0</b>	312.156
<b>30.5</b>	291.587
<b>31.0</b>	272.567
<b>31.5</b>	255.096
<b>32.0</b>	238.915
<b>32.5</b>	224.026
<b>33.0</b>	210.342
<b>33.5</b>	197.690
<b>34.0</b>	186.158
<b>34.5</b>	175.486
<b>35.0</b>	165.847
<b>35.5</b>	156.896
<b>36.0</b>	148.720
<b>36.5</b>	141.232
<b>37.0</b>	134.347
<b>37.5</b>	128.064
<b>38.0</b>	122.384
<b>38.5</b>	117.134
<b>39.0</b>	112.314
<b>39.5</b>	107.925
<b>40.0</b>	103.880
<b>40.5</b>	100.093
<b>41.0</b>	96.565
<b>41.5</b>	93.380
<b>42.0</b>	90.368
<b>42.5</b>	87.528
<b>43.0</b>	84.946
<b>43.5</b>	82.450
<b>44.0</b>	80.126
<b>44.5</b>	77.975
<b>45.0</b>	75.823
<b>45.5</b>	73.843
<b>46.0</b>	72.036
<b>46.5</b>	70.229
<b>47.0</b>	68.507
<b>47.5</b>	66.958
<b>48.0</b>	65.323
<b>48.5</b>	63.860
<b>49.0</b>	62.397
<b>49.5</b>	60.934
<b>50.0</b>	59.643
<b>50.5</b>	58.352
<b>51.0</b>	57.147
<b>51.5</b>	55.856
<b>52.0</b>	54.651
<b>52.5</b>	53.532
<b>53.0</b>	52.327
<b>53.5</b>	51.208
<b>54.0</b>	50.090
<b>54.5</b>	48.971

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**CANDELA TABULATION - (Cont.)**

55.0	47.938
55.5	46.905
56.0	45.872
56.5	44.840
57.0	43.721
57.5	42.774
58.0	41.827
58.5	40.967
59.0	40.020
59.5	39.073
60.0	38.127
60.5	37.180
61.0	36.405
61.5	35.459
62.0	34.598
62.5	33.737
63.0	32.877
63.5	32.102
64.0	31.241
64.5	30.381
65.0	29.520
65.5	28.746
66.0	27.971
66.5	27.196
67.0	26.336
67.5	25.561
68.0	24.787
68.5	24.012
69.0	23.237
69.5	22.463
70.0	21.688
70.5	21.000
71.0	20.311
71.5	19.451
72.0	18.762
72.5	18.074
73.0	17.385
73.5	16.610
74.0	15.922
74.5	15.233
75.0	14.545
75.5	13.856
76.0	13.168
76.5	12.479
77.0	11.791
77.5	11.274
78.0	10.586
78.5	9.983
79.0	9.381
79.5	8.779
80.0	8.176
80.5	7.574
81.0	6.971
81.5	6.541
82.0	5.852
82.5	5.422

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CANDELA TABULATION - (Cont.)

83.0	4.820
83.5	4.389
84.0	3.873
84.5	3.357
85.0	2.926
85.5	2.410
86.0	2.066
86.5	1.635
87.0	1.377
87.5	1.119
88.0	0.861
88.5	0.689
89.0	0.516
89.5	0.344
90.0	0.258
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
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118.5	0.000
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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
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151.0	0.000
151.5	0.000
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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
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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	976.48	N.A.	63.20
0-30	1282.47	N.A.	83.10
0-40	1392.77	N.A.	90.20
0-60	1495.6	N.A.	96.90
0-80	1540.43	N.A.	99.80
0-90	1544.07	N.A.	100.00
10-90	1195.39	N.A.	77.40
20-40	416.29	N.A.	27.00
20-50	476.03	N.A.	30.80
40-70	132.18	N.A.	8.60
60-80	44.83	N.A.	2.90
70-80	15.47	N.A.	1.00
80-90	3.64	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	1544.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	348.67
10-20	627.81
20-30	305.99
30-40	110.30
40-50	59.74
50-60	43.09
60-70	29.36
70-80	15.47
80-90	3.64
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	136	136	136	136	132	132	132	132	127	127	127	121	121	121	116	116	116	114
1	130	127	124	122	127	124	122	120	120	118	116	115	114	112	111	110	109	107
2	124	119	115	111	121	117	113	110	113	110	107	110	107	105	107	105	103	101
3	119	112	107	103	116	110	106	102	107	104	100	105	101	99	102	100	97	96
4	114	106	100	96	112	105	100	96	102	98	94	100	96	93	98	95	92	91
5	109	101	95	91	107	100	94	90	98	93	89	96	92	89	94	91	88	86
6	105	96	90	86	103	95	90	86	94	89	85	92	88	84	91	87	84	82
7	101	92	86	82	100	91	86	82	90	85	81	89	84	81	87	83	80	79
8	97	88	82	78	96	87	82	78	86	81	78	85	81	77	84	80	77	76
9	94	85	79	75	93	84	79	75	83	78	75	82	78	74	81	77	74	73
10	91	81	76	72	90	81	76	72	80	75	72	79	75	72	79	74	71	70

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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	12.9	14.0	13.3	14.3	14.6	12.9	14.0	13.3	14.3	14.6
	3H	14.4	15.3	14.8	15.6	16.0	14.4	15.3	14.8	15.6	16.0
	4H	14.9	15.7	15.3	16.1	16.5	14.9	15.7	15.3	16.1	16.5
	6H	15.2	16.0	15.6	16.4	16.8	15.2	16.0	15.6	16.4	16.8
	8H	15.3	16.0	15.7	16.4	16.8	15.3	16.0	15.7	16.4	16.8
	12H	15.3	16.0	15.8	16.4	16.8	15.3	16.0	15.8	16.4	16.8

UGR Viewed Endwise

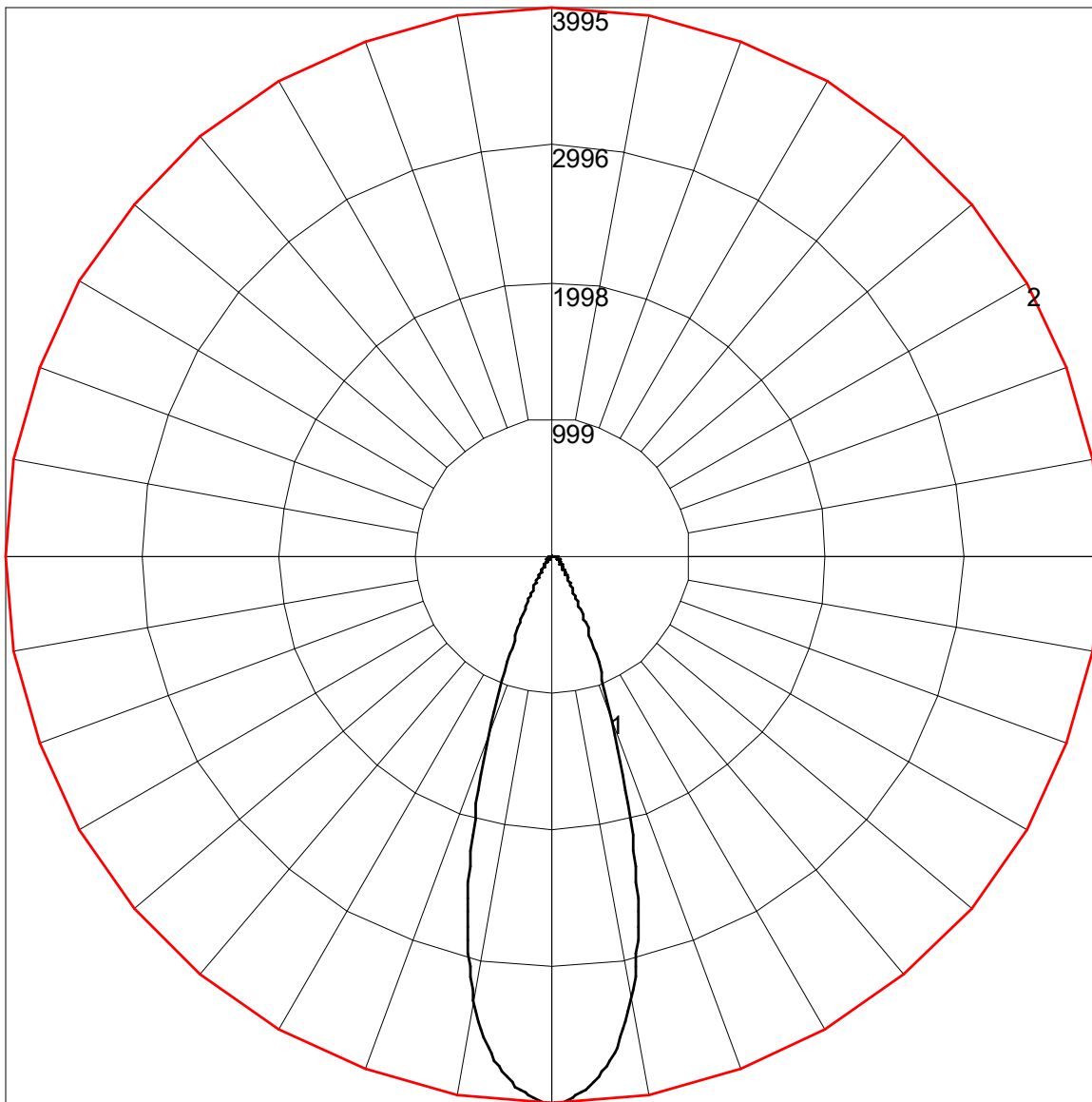
4H	2H	13.4	14.2	13.8	14.6	15.0	13.4	14.2	13.8	14.6	15.0
	3H	15.0	15.7	15.4	16.1	16.5	15.0	15.7	15.4	16.1	16.5
	4H	15.6	16.3	16.1	16.7	17.1	15.6	16.3	16.1	16.7	17.1
	6H	16.1	16.6	16.6	17.1	17.5	16.1	16.6	16.6	17.1	17.5
	8H	16.2	16.7	16.7	17.1	17.6	16.2	16.7	16.7	17.1	17.6
	12H	16.2	16.7	16.7	17.1	17.6	16.2	16.7	16.7	17.1	17.6

8H	4H	15.8	16.3	16.3	16.7	17.2	15.8	16.3	16.3	16.7	17.2
	6H	16.3	16.7	16.9	17.2	17.7	16.3	16.7	16.9	17.2	17.7
	8H	16.5	16.8	17.0	17.4	17.9	16.5	16.8	17.0	17.4	17.9
	12H	16.6	16.9	17.1	17.4	18.0	16.6	16.9	17.1	17.4	18.0

12H	4H	15.8	16.2	16.3	16.7	17.2	15.8	16.2	16.3	16.7	17.2
	6H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7
	8H	16.5	16.8	17.1	17.3	17.9	16.5	16.8	17.1	17.3	17.9

Maximum UGR = 18.0

POLAR GRAPH



Maximum Candela = 3995.121 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.)