



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-835-POE-LW-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.07

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P23-835-PoE-LW-OF-WH

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

[MORE] erved glass 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	2276
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	34
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
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	62821	62821	62821
55	51620	51620	51620
65	37764	37764	37764
75	26143	26143	26143
85	14251	14251	14251

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CANDELA TABULATION

	<u>0</u>
0.0	1599.121
0.5	1598.616
1.0	1597.606
1.5	1596.258
2.0	1594.911
2.5	1593.395
3.0	1591.374
3.5	1590.195
4.0	1589.353
4.5	1588.848
5.0	1588.174
5.5	1587.501
6.0	1586.995
6.5	1586.322
7.0	1585.816
7.5	1585.480
8.0	1585.311
8.5	1584.806
9.0	1584.301
9.5	1583.290
10.0	1582.616
10.5	1581.438
11.0	1580.259
11.5	1578.743
12.0	1577.059
12.5	1575.038
13.0	1572.680
13.5	1569.985
14.0	1566.617
14.5	1562.575
15.0	1557.691
15.5	1551.796
16.0	1545.228
16.5	1537.481
17.0	1529.060
17.5	1519.628
18.0	1508.513
18.5	1497.061
19.0	1484.598
19.5	1470.619
20.0	1455.293
20.5	1438.620
21.0	1420.599
21.5	1401.231
22.0	1379.842
22.5	1357.106
23.0	1332.685
23.5	1306.412
24.0	1278.118
24.5	1247.971
25.0	1215.299
25.5	1181.110
26.0	1144.563
26.5	1105.827

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	1065.744
<b>27.5</b>	1023.977
<b>28.0</b>	981.535
<b>28.5</b>	938.926
<b>29.0</b>	897.158
<b>29.5</b>	856.233
<b>30.0</b>	816.823
<b>30.5</b>	779.772
<b>31.0</b>	745.078
<b>31.5</b>	713.415
<b>32.0</b>	684.616
<b>32.5</b>	658.680
<b>33.0</b>	635.607
<b>33.5</b>	615.060
<b>34.0</b>	596.702
<b>34.5</b>	580.534
<b>35.0</b>	565.882
<b>35.5</b>	552.577
<b>36.0</b>	540.788
<b>36.5</b>	529.672
<b>37.0</b>	519.567
<b>37.5</b>	510.136
<b>38.0</b>	501.378
<b>38.5</b>	492.957
<b>39.0</b>	485.210
<b>39.5</b>	477.631
<b>40.0</b>	470.558
<b>40.5</b>	463.484
<b>41.0</b>	456.747
<b>41.5</b>	450.179
<b>42.0</b>	443.948
<b>42.5</b>	437.716
<b>43.0</b>	431.485
<b>43.5</b>	425.253
<b>44.0</b>	419.022
<b>44.5</b>	412.791
<b>45.0</b>	406.559
<b>45.5</b>	400.328
<b>46.0</b>	394.096
<b>46.5</b>	387.865
<b>47.0</b>	381.297
<b>47.5</b>	374.728
<b>48.0</b>	368.160
<b>48.5</b>	361.423
<b>49.0</b>	354.518
<b>49.5</b>	347.613
<b>50.0</b>	340.876
<b>50.5</b>	333.971
<b>51.0</b>	327.066
<b>51.5</b>	320.161
<b>52.0</b>	313.424
<b>52.5</b>	306.688
<b>53.0</b>	299.783
<b>53.5</b>	292.709
<b>54.0</b>	285.467
<b>54.5</b>	278.225

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**CANDELA TABULATION - (Cont.)**

<b>55.0</b>	270.983
<b>55.5</b>	263.741
<b>56.0</b>	256.668
<b>56.5</b>	249.763
<b>57.0</b>	242.858
<b>57.5</b>	235.953
<b>58.0</b>	229.216
<b>58.5</b>	222.648
<b>59.0</b>	216.079
<b>59.5</b>	209.679
<b>60.0</b>	203.448
<b>60.5</b>	197.217
<b>61.0</b>	191.154
<b>61.5</b>	185.259
<b>62.0</b>	179.364
<b>62.5</b>	173.470
<b>63.0</b>	167.845
<b>63.5</b>	162.253
<b>64.0</b>	156.763
<b>64.5</b>	151.357
<b>65.0</b>	146.068
<b>65.5</b>	140.915
<b>66.0</b>	135.828
<b>66.5</b>	130.877
<b>67.0</b>	126.043
<b>67.5</b>	121.294
<b>68.0</b>	116.696
<b>68.5</b>	112.200
<b>69.0</b>	107.703
<b>69.5</b>	103.358
<b>70.0</b>	99.130
<b>70.5</b>	94.970
<b>71.0</b>	90.912
<b>71.5</b>	86.954
<b>72.0</b>	83.131
<b>72.5</b>	79.358
<b>73.0</b>	75.687
<b>73.5</b>	72.116
<b>74.0</b>	68.613
<b>74.5</b>	65.228
<b>75.0</b>	61.927
<b>75.5</b>	58.727
<b>76.0</b>	55.595
<b>76.5</b>	52.546
<b>77.0</b>	49.633
<b>77.5</b>	46.736
<b>78.0</b>	43.940
<b>78.5</b>	41.229
<b>79.0</b>	38.568
<b>79.5</b>	36.008
<b>80.0</b>	33.498
<b>80.5</b>	31.056
<b>81.0</b>	28.648
<b>81.5</b>	26.307
<b>82.0</b>	24.016
<b>82.5</b>	21.793

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CANDELA TABULATION - (Cont.)

83.0	19.587
83.5	17.448
84.0	15.360
84.5	13.322
85.0	11.368
85.5	9.482
86.0	7.680
86.5	5.979
87.0	4.480
87.5	3.234
88.0	2.257
88.5	1.432
89.0	0.893
89.5	0.606
90.0	0.421
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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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

IES INDOOR REPORT  
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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
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161.5	0.000
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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	587.39	N.A.	25.80
0-30	1126.68	N.A.	49.50
0-40	1494.02	N.A.	65.60
0-60	2049.31	N.A.	90.00
0-80	2262.18	N.A.	99.40
0-90	2276.41	N.A.	100.00
10-90	2124.95	N.A.	93.30
20-40	906.63	N.A.	39.80
20-50	1219.74	N.A.	53.60
40-70	701.34	N.A.	30.80
60-80	212.86	N.A.	9.40
70-80	66.81	N.A.	2.90
80-90	14.24	N.A.	0.60
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	2276.42	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	151.47
10-20	435.92
20-30	539.29
30-40	367.34
40-50	313.10
50-60	242.19
60-70	146.05
70-80	66.81
80-90	14.24
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	164	164	164	164	160	160	160	160	153	153	153	146	146	146	140	140	140	138
1	153	148	143	139	150	145	141	137	139	136	133	134	131	129	129	127	125	122
2	142	133	126	120	139	131	124	118	126	120	116	122	117	113	118	114	111	108
3	132	121	112	104	129	119	110	103	115	108	102	111	105	100	108	103	98	96
4	123	110	100	92	121	108	99	92	105	97	91	102	95	89	99	93	88	86
5	115	101	90	83	113	99	90	82	96	88	82	94	87	81	92	85	80	77
6	108	93	82	75	106	91	82	75	89	80	74	87	79	73	85	78	73	70
7	102	86	75	68	99	85	75	68	83	74	68	81	73	67	79	72	67	64
8	96	80	70	63	94	79	69	63	77	68	62	75	68	62	74	67	62	59
9	90	74	64	58	89	74	64	58	72	64	58	71	63	57	69	62	57	55
10	85	70	60	54	84	69	60	54	68	59	53	66	59	53	65	58	53	51

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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	22.4	23.8	22.8	24.1	24.4	UGR Viewed Endwise			
	3H	23.5	24.7	23.9	25.1	25.4	22.4	23.8	22.8	24.1
	4H	23.9	25.0	24.3	25.3	25.7	23.5	24.7	23.9	25.1
	6H	24.1	25.1	24.5	25.5	25.9	23.9	25.0	24.3	25.3
	8H	24.1	25.1	24.6	25.5	25.9	24.1	25.1	24.5	25.5
	12H	24.1	25.1	24.6	25.5	25.9	24.1	25.1	24.6	25.5

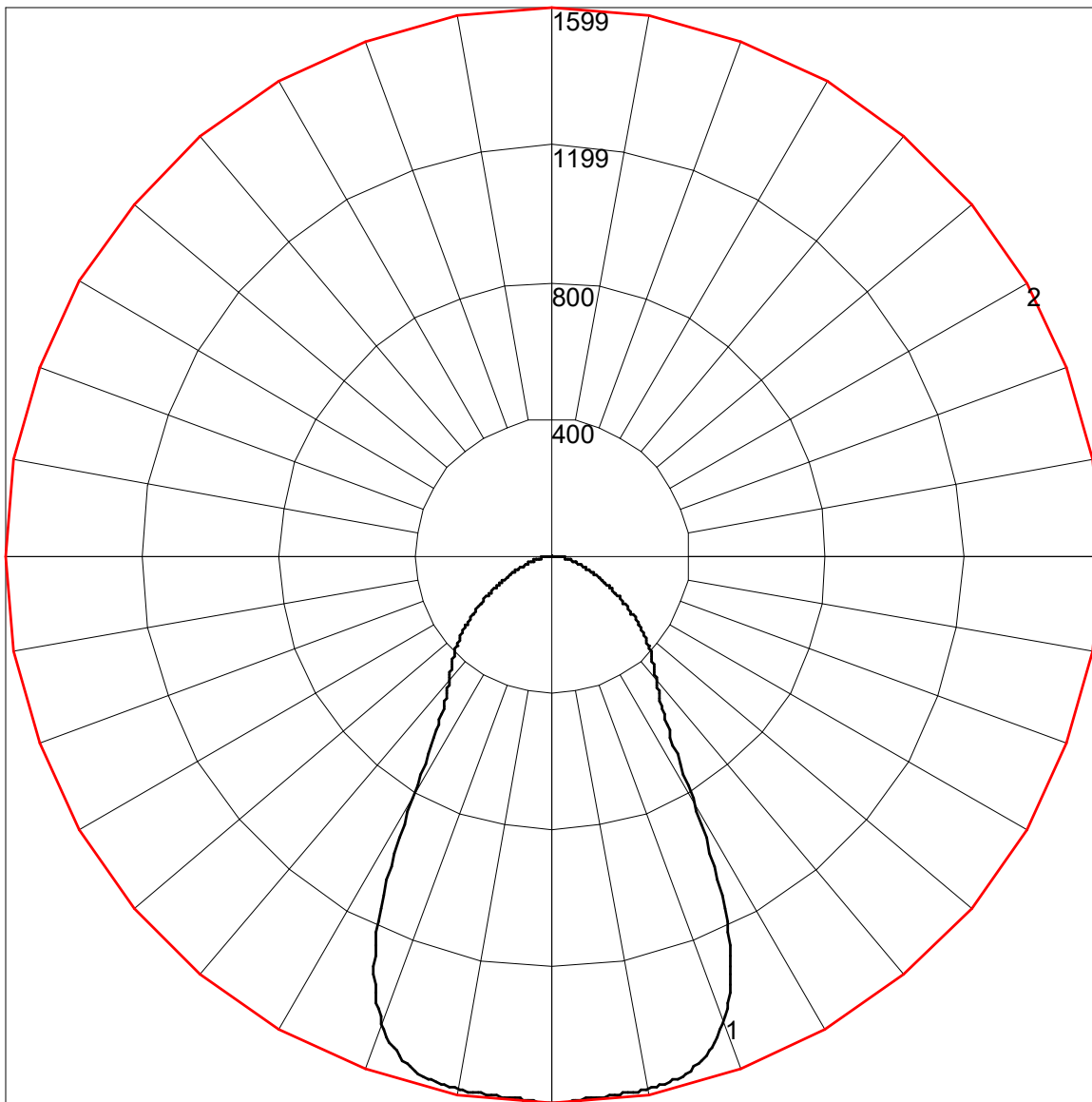
4H	2H	22.8	23.9	23.2	24.3	24.6	22.8	23.9	23.2	24.3
	3H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4
	4H	24.5	25.4	24.9	25.8	26.2	24.5	25.4	24.9	25.8
	6H	24.8	25.6	25.3	26.0	26.5	24.8	25.6	25.3	26.0
	8H	24.9	25.6	25.4	26.0	26.5	24.9	25.6	25.4	26.0
	12H	24.9	25.5	25.4	26.0	26.5	24.9	25.5	25.4	26.0

8H	4H	24.6	25.3	25.1	25.8	26.2	24.6	25.3	25.1	25.8
	6H	25.0	25.6	25.5	26.1	26.6	25.0	25.6	25.5	26.1
	8H	25.1	25.6	25.7	26.2	26.6	25.1	25.6	25.7	26.2
	12H	25.2	25.6	25.7	26.1	26.7	25.2	25.6	25.7	26.1

12H	4H	24.6	25.2	25.1	25.7	26.2	24.6	25.2	25.1	25.7
	6H	25.0	25.5	25.6	26.0	26.5	25.0	25.5	25.6	26.0
	8H	25.2	25.6	25.7	26.1	26.7	25.2	25.6	25.7	26.1

Maximum UGR = 26.7

POLAR GRAPH



Maximum Candela = 1599.121 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.)