



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-L37-835-DIM-UNV-RW-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.12

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 13 SEP 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-L37-835-DIM-UNV-RW-OF-WH

[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	3600
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	61
Total Luminaire Watts	58.6
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	83270	83270	83270
55	67236	67236	67236
65	43495	43495	43495
75	24254	24254	24254
85	12460	12460	12460

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CANDELA TABULATION

	<u>0</u>
0.0	2891.713
0.5	2891.713
1.0	2888.992
1.5	2883.552
2.0	2878.111
2.5	2872.670
3.0	2864.509
3.5	2856.349
4.0	2848.188
4.5	2837.306
5.0	2829.145
5.5	2818.264
6.0	2807.383
6.5	2796.501
7.0	2785.620
7.5	2774.739
8.0	2763.857
8.5	2750.256
9.0	2739.374
9.5	2728.493
10.0	2718.156
10.5	2707.002
11.0	2695.577
11.5	2684.424
12.0	2673.814
12.5	2663.205
13.0	2652.596
13.5	2641.714
14.0	2630.833
14.5	2619.952
15.0	2608.798
15.5	2597.373
16.0	2585.403
16.5	2573.434
17.0	2561.192
17.5	2548.135
18.0	2534.261
18.5	2519.299
19.0	2504.882
19.5	2489.376
20.0	2472.510
20.5	2453.195
21.0	2430.889
21.5	2406.678
22.0	2378.930
22.5	2348.191
23.0	2313.370
23.5	2274.197
24.0	2231.216
24.5	2182.522
25.0	2128.116
25.5	2067.996
26.0	2002.980
26.5	1933.884

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	1861.251
<b>27.5</b>	1787.530
<b>28.0</b>	1710.273
<b>28.5</b>	1633.831
<b>29.0</b>	1557.662
<b>29.5</b>	1481.493
<b>30.0</b>	1406.684
<b>30.5</b>	1333.235
<b>31.0</b>	1263.866
<b>31.5</b>	1196.674
<b>32.0</b>	1133.290
<b>32.5</b>	1074.259
<b>33.0</b>	1019.580
<b>33.5</b>	970.342
<b>34.0</b>	926.001
<b>34.5</b>	887.372
<b>35.0</b>	853.368
<b>35.5</b>	824.533
<b>36.0</b>	799.234
<b>36.5</b>	778.015
<b>37.0</b>	759.245
<b>37.5</b>	743.195
<b>38.0</b>	728.505
<b>38.5</b>	715.447
<b>39.0</b>	703.750
<b>39.5</b>	693.141
<b>40.0</b>	683.619
<b>40.5</b>	674.642
<b>41.0</b>	665.937
<b>41.5</b>	658.048
<b>42.0</b>	650.159
<b>42.5</b>	642.814
<b>43.0</b>	635.470
<b>43.5</b>	627.853
<b>44.0</b>	620.236
<b>44.5</b>	612.619
<b>45.0</b>	604.730
<b>45.5</b>	596.569
<b>46.0</b>	588.136
<b>46.5</b>	579.431
<b>47.0</b>	570.454
<b>47.5</b>	561.204
<b>48.0</b>	551.955
<b>48.5</b>	542.162
<b>49.0</b>	532.097
<b>49.5</b>	521.488
<b>50.0</b>	510.878
<b>50.5</b>	499.997
<b>51.0</b>	488.572
<b>51.5</b>	477.418
<b>52.0</b>	465.993
<b>52.5</b>	454.567
<b>53.0</b>	443.686
<b>53.5</b>	431.717
<b>54.0</b>	419.747
<b>54.5</b>	407.778

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**CANDELA TABULATION - (Cont.)**

55.0	396.080
55.5	384.111
56.0	372.413
56.5	360.988
57.0	349.563
57.5	338.137
58.0	326.984
58.5	316.103
59.0	305.221
59.5	294.612
60.0	284.003
60.5	273.665
61.0	263.600
61.5	253.535
62.0	244.014
62.5	234.221
63.0	224.971
63.5	215.450
64.0	206.473
64.5	197.496
65.0	188.791
65.5	180.086
66.0	171.653
66.5	163.492
67.0	155.603
67.5	147.714
68.0	140.097
68.5	132.480
69.0	125.135
69.5	118.062
70.0	111.534
70.5	105.277
71.0	99.564
71.5	94.123
72.0	88.955
72.5	84.058
73.0	79.434
73.5	75.353
74.0	71.273
74.5	67.736
75.0	64.472
75.5	61.480
76.0	58.215
76.5	55.223
77.0	52.230
77.5	49.238
78.0	46.518
78.5	43.525
79.0	40.805
79.5	38.085
80.0	35.364
80.5	32.644
81.0	30.196
81.5	27.747
82.0	25.027
82.5	22.851

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CANDELA TABULATION - (Cont.)

83.0	20.402
83.5	17.954
84.0	15.778
84.5	13.330
85.0	11.153
85.5	9.249
86.0	7.345
86.5	5.985
87.0	4.625
87.5	3.536
88.0	2.448
88.5	1.632
89.0	0.816
89.5	0.272
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
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98.0	0.000
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99.0	0.000
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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
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116.5	0.000
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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
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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	1000.92	N.A.	27.80
0-30	1936.91	N.A.	53.80
0-40	2507.29	N.A.	69.60
0-60	3325.05	N.A.	92.40
0-80	3585.23	N.A.	99.60
0-90	3599.95	N.A.	100.00
10-90	3333.62	N.A.	92.60
20-40	1506.37	N.A.	41.80
20-50	1970.45	N.A.	54.70
40-70	1006.89	N.A.	28.00
60-80	260.19	N.A.	7.20
70-80	71.05	N.A.	2.00
80-90	14.71	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	3599.95	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	266.33
10-20	734.59
20-30	935.99
30-40	570.38
40-50	464.08
50-60	353.68
60-70	189.13
70-80	71.05
80-90	14.71
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	161	161	161	161	157	157	157	157	150	150	150	144	144	144	138	138	138	135
1	151	146	142	138	147	143	139	136	138	135	132	133	130	128	128	126	124	121
2	141	133	126	120	138	130	124	118	126	120	116	121	117	113	118	114	111	108
3	132	121	112	105	129	119	111	104	115	108	103	111	106	101	108	104	99	97
4	123	110	101	94	120	109	100	93	106	98	92	103	96	91	100	94	90	87
5	115	101	92	85	113	100	91	84	97	89	83	95	88	83	93	87	82	79
6	108	94	84	77	106	93	83	77	90	82	76	88	81	75	86	80	75	73
7	102	87	77	70	100	86	77	70	84	76	70	82	75	69	81	74	69	67
8	96	81	71	65	94	80	71	65	79	70	64	77	70	64	76	69	64	62
9	91	76	66	60	89	75	66	60	74	65	60	72	65	59	71	64	59	57
10	86	71	62	56	85	70	62	56	69	61	56	68	61	55	67	60	55	53

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**UGR TABLE - CORRECTED**

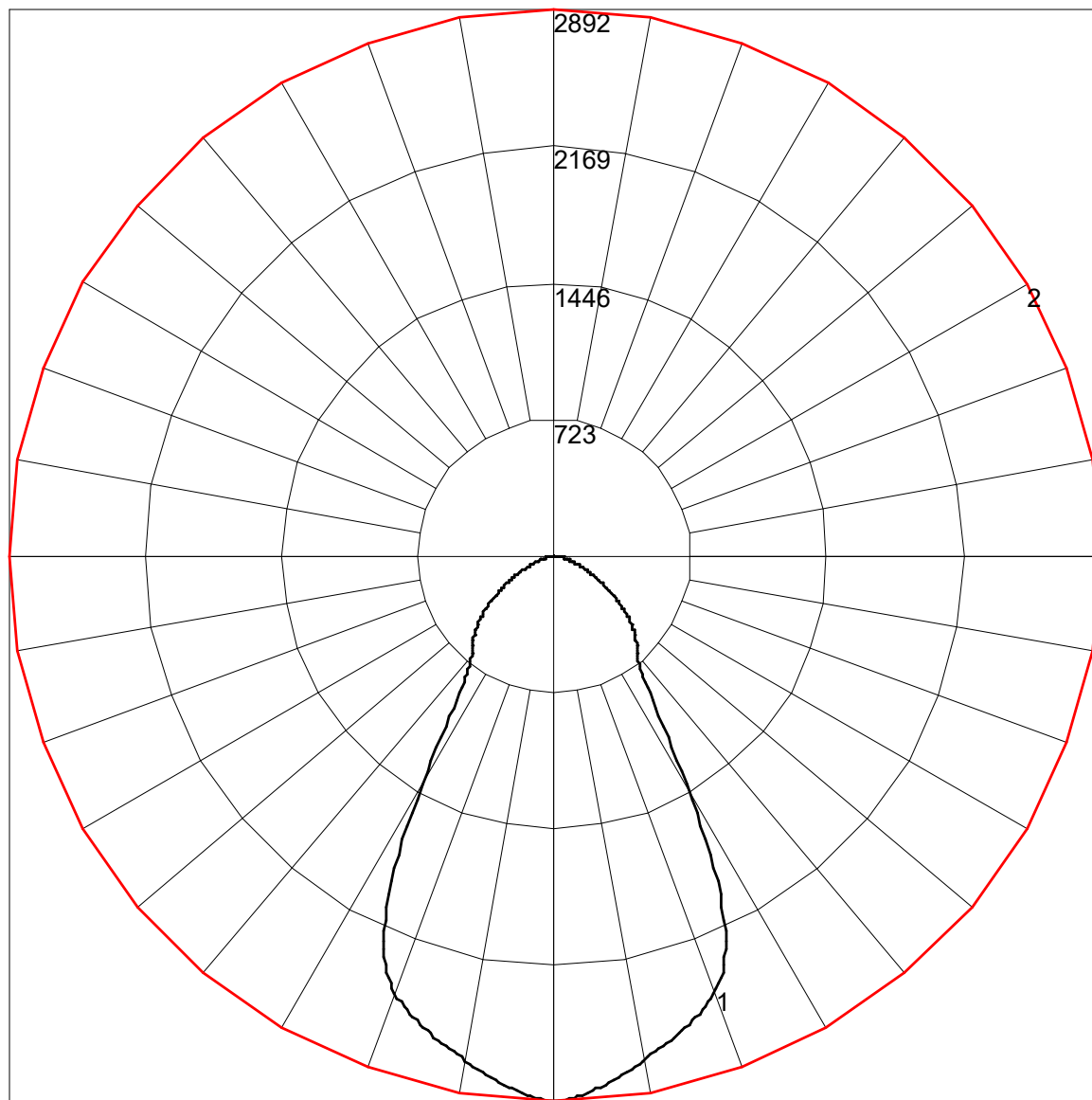
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	23.0	24.3	23.4	24.6	24.9	23.0	24.3	23.4	24.6	24.9
	3H	23.8	24.9	24.1	25.3	25.6	23.8	24.9	24.1	25.3	25.6
	4H	23.9	25.0	24.3	25.4	25.7	23.9	25.0	24.3	25.4	25.7
	6H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
	8H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
	12H	24.0	24.9	24.5	25.3	25.8	24.0	24.9	24.5	25.3	25.8
4H	2H	23.3	24.4	23.7	24.7	25.1	23.3	24.4	23.7	24.7	25.1
	3H	24.2	25.1	24.6	25.5	25.9	24.2	25.1	24.6	25.5	25.9
	4H	24.4	25.2	24.8	25.6	26.1	24.4	25.2	24.8	25.6	26.1
	6H	24.6	25.3	25.1	25.7	26.2	24.6	25.3	25.1	25.7	26.2
	8H	24.6	25.2	25.1	25.7	26.2	24.6	25.2	25.1	25.7	26.2
	12H	24.6	25.2	25.1	25.7	26.1	24.6	25.2	25.1	25.7	26.1
8H	4H	24.5	25.1	24.9	25.5	26.0	24.5	25.1	24.9	25.5	26.0
	6H	24.7	25.2	25.2	25.7	26.2	24.7	25.2	25.2	25.7	26.2
	8H	24.7	25.2	25.3	25.7	26.2	24.7	25.2	25.3	25.7	26.2
	12H	24.8	25.2	25.3	25.7	26.2	24.8	25.2	25.3	25.7	26.2
12H	4H	24.4	25.0	24.9	25.5	25.9	24.4	25.0	24.9	25.5	25.9
	6H	24.7	25.1	25.2	25.6	26.1	24.7	25.1	25.2	25.6	26.1
	8H	24.7	25.2	25.3	25.6	26.2	24.7	25.2	25.3	25.6	26.2

Maximum UGR = 26.2

POLAR GRAPH



Maximum Candela = 2891.713 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.)