



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-835-POE-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] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-P23-835-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	3022
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	34
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	22931	22931	22931
55	17873	17873	17873
65	14938	14938	14938
75	12018	12018	12018
85	7180	7180	7180

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CANDELA TABULATION

	<u>0</u>
0.0	7819.468
0.5	7816.099
1.0	7804.307
1.5	7785.778
2.0	7762.195
2.5	7730.189
3.0	7693.130
3.5	7649.333
4.0	7598.798
4.5	7544.894
5.0	7484.251
5.5	7416.871
6.0	7342.753
6.5	7260.212
7.0	7170.934
7.5	7073.232
8.0	6967.109
8.5	6852.562
9.0	6731.278
9.5	6599.887
10.0	6458.388
10.5	6306.783
11.0	6148.440
11.5	5981.674
12.0	5804.801
12.5	5621.190
13.0	5429.156
13.5	5230.385
14.0	5023.191
14.5	4809.259
15.0	4593.642
15.5	4374.657
16.0	4155.671
16.5	3935.001
17.0	3716.016
17.5	3503.768
18.0	3293.205
18.5	3091.065
19.0	2897.347
19.5	2710.367
20.0	2533.494
20.5	2363.359
21.0	2205.016
21.5	2055.095
22.0	1913.597
22.5	1782.205
23.0	1658.226
23.5	1542.669
24.0	1435.366
24.5	1335.138
25.0	1242.153
25.5	1155.738
26.0	1074.714
26.5	999.922

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CANDELA TABULATION - (Cont.)

27.0	930.183
27.5	866.340
28.0	806.877
28.5	751.963
29.0	701.596
29.5	654.598
30.0	610.970
30.5	570.710
31.0	533.482
31.5	499.287
32.0	467.618
32.5	438.476
33.0	411.693
33.5	386.931
34.0	364.358
34.5	343.470
35.0	324.604
35.5	307.085
36.0	291.082
36.5	276.427
37.0	262.951
37.5	250.654
38.0	239.536
38.5	229.261
39.0	219.828
39.5	211.237
40.0	203.320
40.5	195.908
41.0	189.001
41.5	182.769
42.0	176.873
42.5	171.314
43.0	166.261
43.5	161.375
44.0	156.827
44.5	152.616
45.0	148.405
45.5	144.530
46.0	140.993
46.5	137.456
47.0	134.087
47.5	131.054
48.0	127.854
48.5	124.990
49.0	122.127
49.5	119.263
50.0	116.736
50.5	114.209
51.0	111.851
51.5	109.324
52.0	106.966
52.5	104.776
53.0	102.418
53.5	100.228
54.0	98.038
54.5	95.848

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CANDELA TABULATION - (Cont.)

55.0	93.827
55.5	91.805
56.0	89.784
56.5	87.763
57.0	85.573
57.5	83.720
58.0	81.867
58.5	80.182
59.0	78.329
59.5	76.476
60.0	74.624
60.5	72.771
61.0	71.255
61.5	69.402
62.0	67.717
62.5	66.033
63.0	64.348
63.5	62.832
64.0	61.147
64.5	59.463
65.0	57.778
65.5	56.262
66.0	54.746
66.5	53.230
67.0	51.546
67.5	50.030
68.0	48.514
68.5	46.998
69.0	45.482
69.5	43.966
70.0	42.450
70.5	41.102
71.0	39.754
71.5	38.070
72.0	36.722
72.5	35.375
73.0	34.027
73.5	32.511
74.0	31.163
74.5	29.816
75.0	28.468
75.5	27.121
76.0	25.773
76.5	24.425
77.0	23.078
77.5	22.067
78.0	20.719
78.5	19.540
79.0	18.361
79.5	17.182
80.0	16.003
80.5	14.824
81.0	13.644
81.5	12.802
82.0	11.455
82.5	10.612

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CANDELA TABULATION - (Cont.)

83.0	9.433
83.5	8.591
84.0	7.580
84.5	6.570
85.0	5.727
85.5	4.717
86.0	4.043
86.5	3.201
87.0	2.695
87.5	2.190
88.0	1.685
88.5	1.348
89.0	1.011
89.5	0.674
90.0	0.505
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
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136.0	0.000
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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
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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
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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	1911.22	N.A.	63.20
0-30	2510.12	N.A.	83.10
0-40	2726.01	N.A.	90.20
0-60	2927.27	N.A.	96.90
0-80	3015.01	N.A.	99.80
0-90	3022.13	N.A.	100.00
10-90	2339.69	N.A.	77.40
20-40	814.79	N.A.	27.00
20-50	931.71	N.A.	30.80
40-70	258.72	N.A.	8.60
60-80	87.74	N.A.	2.90
70-80	30.28	N.A.	1.00
80-90	7.13	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	3022.15	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	682.44
10-20	1228.78
20-30	598.90
30-40	215.89
40-50	116.92
50-60	84.34
60-70	57.46
70-80	30.28
80-90	7.13
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	157	153	150	147	153	150	147	145	145	142	140	140	138	136	135	133	132	130
2	150	144	138	134	147	141	137	133	137	133	130	133	130	127	129	127	124	122
3	143	135	129	124	141	133	128	123	130	125	121	127	123	119	124	120	118	116
4	137	128	121	116	135	127	120	115	124	118	114	121	117	113	119	115	112	110
5	132	122	115	110	130	121	114	109	118	112	108	116	111	107	114	110	106	104
6	127	116	109	104	125	115	108	104	113	107	103	111	106	102	110	105	101	100
7	122	111	104	99	120	110	103	99	109	103	98	107	102	98	106	101	97	95
8	118	107	99	95	116	106	99	94	104	98	94	103	98	94	102	97	93	92
9	114	102	95	91	112	102	95	91	100	94	90	99	94	90	98	93	90	88
10	110	98	92	87	109	98	91	87	97	91	87	96	90	87	95	90	86	85

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UGR TABLE - CORRECTED

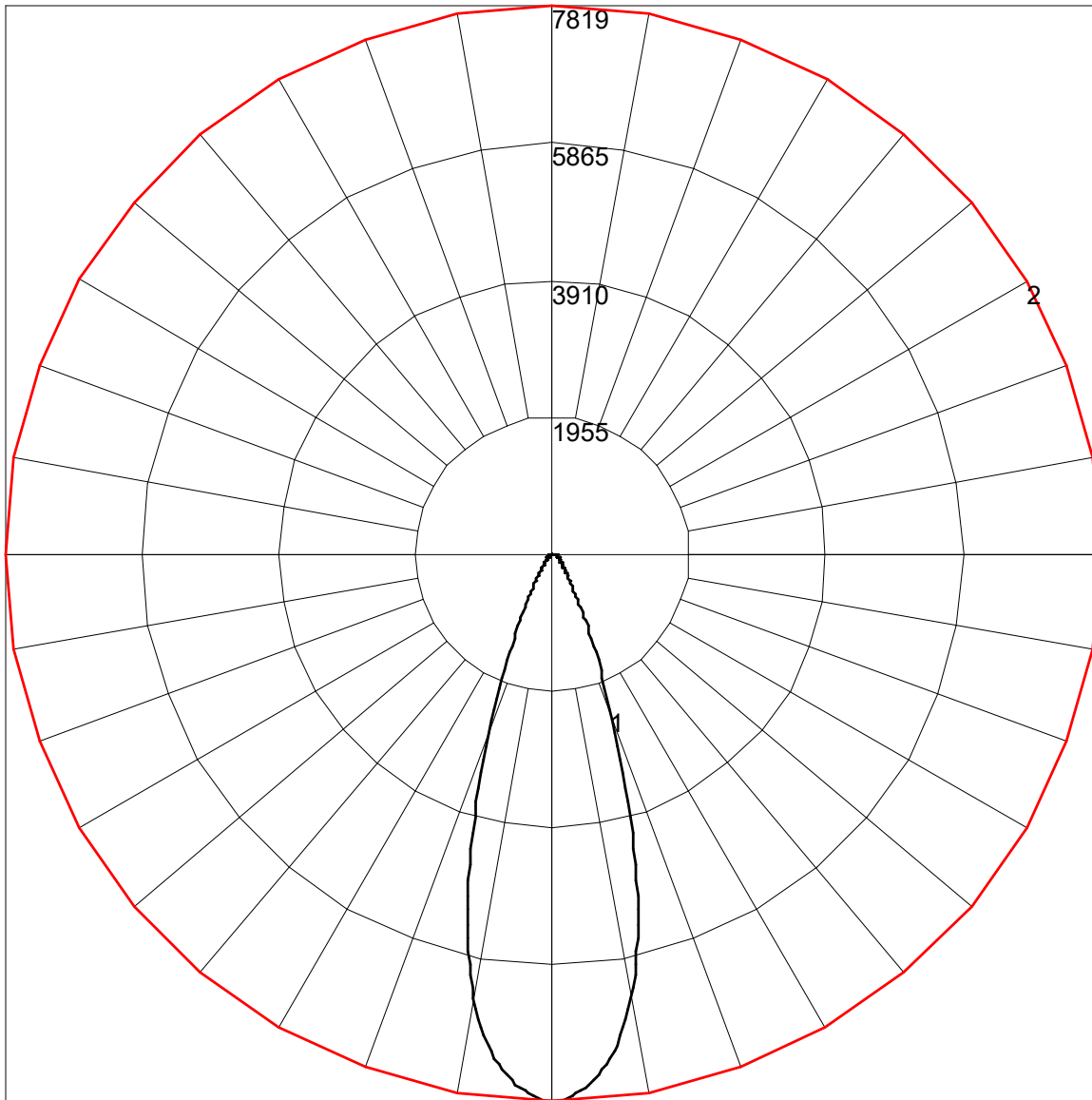
Reflectances

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	14.6	15.7	15.0	16.0	16.3	14.6	15.7	15.0	16.0	16.3
	3H	16.1	17.0	16.5	17.3	17.7	16.1	17.0	16.5	17.3	17.7
	4H	16.6	17.4	17.0	17.8	18.2	16.6	17.4	17.0	17.8	18.2
	6H	16.9	17.7	17.3	18.1	18.5	16.9	17.7	17.3	18.1	18.5
	8H	17.0	17.7	17.4	18.1	18.5	17.0	17.7	17.4	18.1	18.5
	12H	17.0	17.7	17.5	18.1	18.5	17.0	17.7	17.5	18.1	18.5
4H	2H	15.1	15.9	15.5	16.3	16.7	15.1	15.9	15.5	16.3	16.7
	3H	16.7	17.4	17.1	17.8	18.2	16.7	17.4	17.1	17.8	18.2
	4H	17.3	18.0	17.8	18.4	18.8	17.3	18.0	17.8	18.4	18.8
	6H	17.8	18.3	18.3	18.8	19.2	17.8	18.3	18.3	18.8	19.2
	8H	17.9	18.4	18.4	18.8	19.3	17.9	18.4	18.4	18.8	19.3
	12H	17.9	18.4	18.4	18.8	19.3	17.9	18.4	18.4	18.8	19.3
8H	4H	17.5	18.0	18.0	18.4	18.9	17.5	18.0	18.0	18.4	18.9
	6H	18.0	18.4	18.6	18.9	19.4	18.0	18.4	18.6	18.9	19.4
	8H	18.2	18.5	18.7	19.1	19.6	18.2	18.5	18.7	19.1	19.6
	12H	18.3	18.6	18.8	19.1	19.7	18.3	18.6	18.8	19.1	19.7
12H	4H	17.5	17.9	18.0	18.4	18.9	17.5	17.9	18.0	18.4	18.9
	6H	18.1	18.4	18.6	18.9	19.4	18.1	18.4	18.6	18.9	19.4
	8H	18.2	18.5	18.8	19.0	19.6	18.2	18.5	18.8	19.0	19.6

Maximum UGR = 19.7

POLAR GRAPH



Maximum Candela = 7819.468 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.)