



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-L10-835-DIM-UNV-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] 10 SEP 2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] V4DR-L10-835-DIM-UNV-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	1319
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	16.1
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	10009	10009	10009
55	7801	7801	7801
65	6520	6520	6520
75	5245	5245	5245
85	3134	3134	3134

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CANDELA TABULATION

	<u>0</u>
0.0	3412.931
0.5	3411.460
1.0	3406.314
1.5	3398.226
2.0	3387.933
2.5	3373.963
3.0	3357.788
3.5	3338.673
4.0	3316.616
4.5	3293.088
5.0	3266.620
5.5	3237.211
6.0	3204.861
6.5	3168.835
7.0	3129.868
7.5	3087.224
8.0	3040.905
8.5	2990.909
9.0	2937.973
9.5	2880.625
10.0	2818.866
10.5	2752.695
11.0	2683.584
11.5	2610.796
12.0	2533.597
12.5	2453.457
13.0	2369.641
13.5	2282.884
14.0	2192.451
14.5	2099.077
15.0	2004.968
15.5	1909.388
16.0	1813.809
16.5	1717.494
17.0	1621.914
17.5	1529.275
18.0	1437.372
18.5	1349.144
19.0	1264.593
19.5	1182.983
20.0	1105.784
20.5	1031.526
21.0	962.414
21.5	896.979
22.0	835.220
22.5	777.872
23.0	723.759
23.5	673.322
24.0	626.488
24.5	582.742
25.0	542.157
25.5	504.440
26.0	469.076
26.5	436.432

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CANDELA TABULATION - (Cont.)

27.0	405.993
27.5	378.128
28.0	352.174
28.5	328.206
29.0	306.223
29.5	285.710
30.0	266.667
30.5	249.095
31.0	232.847
31.5	217.922
32.0	204.099
32.5	191.380
33.0	179.690
33.5	168.882
34.0	159.030
34.5	149.913
35.0	141.679
35.5	134.032
36.0	127.047
36.5	120.651
37.0	114.769
37.5	109.402
38.0	104.549
38.5	100.065
39.0	95.947
39.5	92.198
40.0	88.742
40.5	85.507
41.0	82.493
41.5	79.772
42.0	77.199
42.5	74.773
43.0	72.567
43.5	70.435
44.0	68.450
44.5	66.612
45.0	64.774
45.5	63.083
46.0	61.539
46.5	59.995
47.0	58.524
47.5	57.201
48.0	55.804
48.5	54.554
49.0	53.304
49.5	52.054
50.0	50.951
50.5	49.848
51.0	48.819
51.5	47.716
52.0	46.687
52.5	45.731
53.0	44.702
53.5	43.746
54.0	42.790
54.5	41.835

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CANDELA TABULATION - (Cont.)

55.0	40.952
55.5	40.070
56.0	39.188
56.5	38.305
57.0	37.350
57.5	36.541
58.0	35.732
58.5	34.997
59.0	34.188
59.5	33.379
60.0	32.571
60.5	31.762
61.0	31.100
61.5	30.291
62.0	29.556
62.5	28.821
63.0	28.086
63.5	27.424
64.0	26.689
64.5	25.954
65.0	25.218
65.5	24.557
66.0	23.895
66.5	23.233
67.0	22.498
67.5	21.836
68.0	21.175
68.5	20.513
69.0	19.851
69.5	19.189
70.0	18.528
70.5	17.940
71.0	17.351
71.5	16.616
72.0	16.028
72.5	15.440
73.0	14.852
73.5	14.190
74.0	13.602
74.5	13.014
75.0	12.425
75.5	11.837
76.0	11.249
76.5	10.661
77.0	10.073
77.5	9.631
78.0	9.043
78.5	8.529
79.0	8.014
79.5	7.499
80.0	6.985
80.5	6.470
81.0	5.955
81.5	5.588
82.0	5.000
82.5	4.632

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CANDELA TABULATION - (Cont.)

83.0	4.117
83.5	3.750
84.0	3.309
84.5	2.867
85.0	2.500
85.5	2.059
86.0	1.765
86.5	1.397
87.0	1.176
87.5	0.956
88.0	0.735
88.5	0.588
89.0	0.441
89.5	0.294
90.0	0.221
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
118.5	0.000
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123.0	0.000
123.5	0.000
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124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
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131.0	0.000
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132.0	0.000
132.5	0.000
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133.5	0.000
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134.5	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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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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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	834.18	N.A.	63.20
0-30	1095.58	N.A.	83.10
0-40	1189.81	N.A.	90.20
0-60	1277.65	N.A.	96.90
0-80	1315.95	N.A.	99.80
0-90	1319.06	N.A.	100.00
10-90	1021.19	N.A.	77.40
20-40	355.63	N.A.	27.00
20-50	406.66	N.A.	30.80
40-70	112.92	N.A.	8.60
60-80	38.29	N.A.	2.90
70-80	13.22	N.A.	1.00
80-90	3.11	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	1319.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	297.86
10-20	536.32
20-30	261.40
30-40	94.23
40-50	51.03
50-60	36.81
60-70	25.08
70-80	13.22
80-90	3.11
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	175	175	175	175	171	171	171	171	164	164	164	157	157	157	150	150	150	147
1	168	164	160	157	164	161	158	155	155	152	150	149	147	146	144	143	141	139
2	160	154	148	144	157	151	146	142	147	142	139	142	139	136	138	135	133	131
3	154	145	138	133	151	143	137	132	139	134	130	136	131	128	132	129	126	124
4	147	137	130	124	145	136	129	124	133	127	122	130	125	121	127	123	119	117
5	141	130	123	117	139	129	122	117	127	120	116	124	119	115	122	117	114	112
6	136	124	117	111	134	123	116	111	121	115	110	119	114	109	117	112	109	107
7	131	119	111	106	129	118	111	106	116	110	105	115	109	105	113	108	104	102
8	126	114	106	101	124	113	106	101	112	105	101	110	104	100	109	104	100	98
9	122	110	102	97	120	109	102	97	108	101	97	106	101	96	105	100	96	94
10	118	105	98	93	116	105	98	93	104	97	93	103	97	93	102	96	92	91

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UGR TABLE - CORRECTED

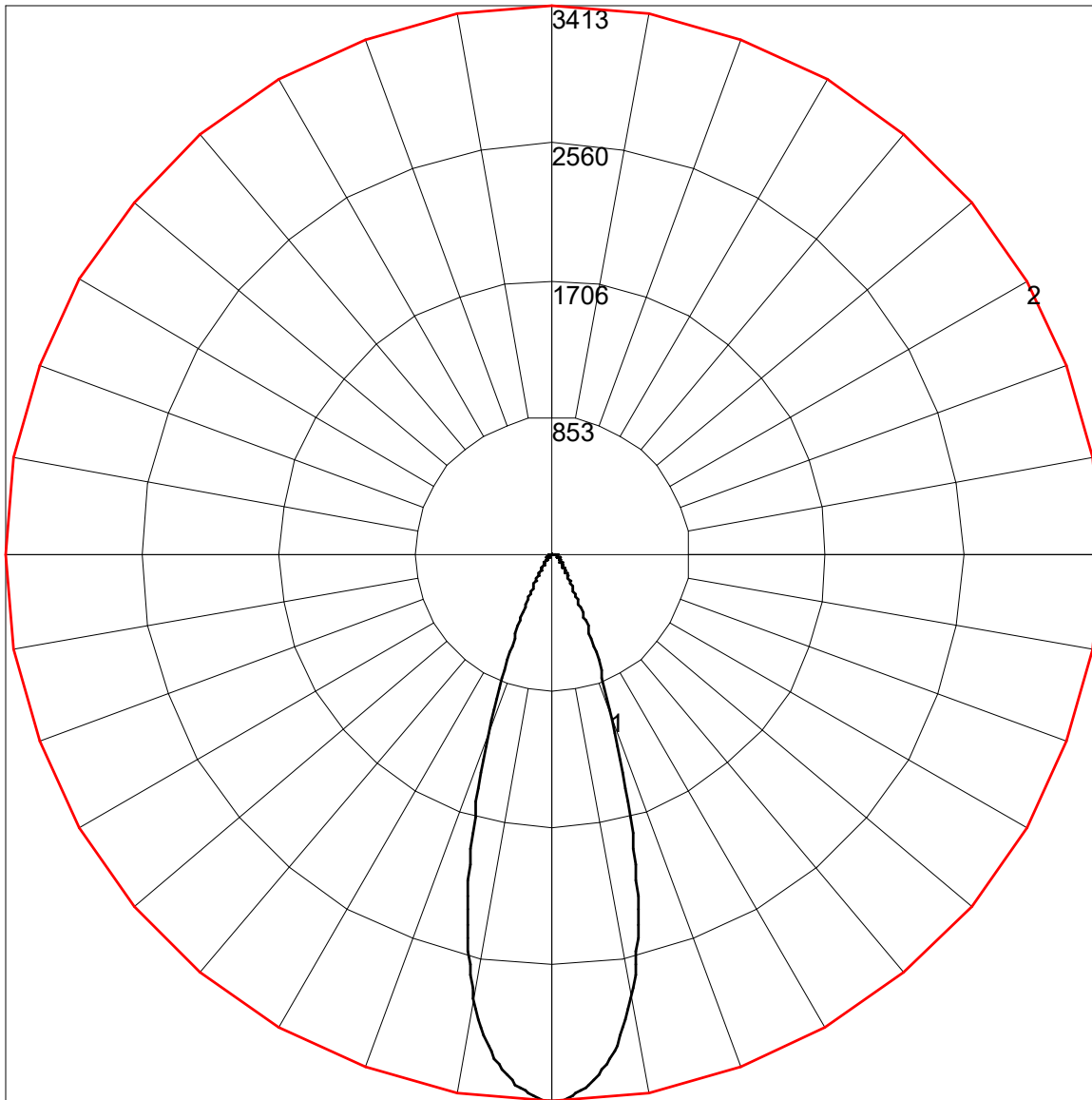
Reflectances

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	11.5	12.6	11.9	12.9	13.2	11.5	12.6	11.9	12.9	13.2
	3H	13.0	13.9	13.4	14.2	14.6	13.0	13.9	13.4	14.2	14.6
	4H	13.5	14.3	13.9	14.7	15.1	13.5	14.3	13.9	14.7	15.1
	6H	13.8	14.6	14.3	15.0	15.4	13.8	14.6	14.3	15.0	15.4
	8H	13.9	14.6	14.4	15.0	15.4	13.9	14.6	14.4	15.0	15.4
	12H	13.9	14.6	14.4	15.0	15.4	13.9	14.6	14.4	15.0	15.4
4H	2H	12.0	12.8	12.4	13.2	13.6	12.0	12.8	12.4	13.2	13.6
	3H	13.6	14.3	14.0	14.7	15.1	13.6	14.3	14.0	14.7	15.1
	4H	14.3	14.9	14.7	15.3	15.7	14.3	14.9	14.7	15.3	15.7
	6H	14.7	15.2	15.2	15.7	16.1	14.7	15.2	15.2	15.7	16.1
	8H	14.8	15.3	15.3	15.7	16.2	14.8	15.3	15.3	15.7	16.2
	12H	14.8	15.3	15.3	15.7	16.2	14.8	15.3	15.3	15.7	16.2
8H	4H	14.4	14.9	14.9	15.4	15.8	14.4	14.9	14.9	15.4	15.8
	6H	14.9	15.3	15.5	15.8	16.3	14.9	15.3	15.5	15.8	16.3
	8H	15.1	15.5	15.6	16.0	16.5	15.1	15.5	15.6	16.0	16.5
	12H	15.2	15.5	15.7	16.0	16.6	15.2	15.5	15.7	16.0	16.6
12H	4H	14.4	14.8	14.9	15.3	15.8	14.4	14.8	14.9	15.3	15.8
	6H	15.0	15.3	15.5	15.8	16.3	15.0	15.3	15.5	15.8	16.3
	8H	15.1	15.5	15.7	15.9	16.5	15.1	15.5	15.7	15.9	16.5

Maximum UGR = 16.6

POLAR GRAPH



Maximum Candela = 3412.931 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.)