



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-L20-835-DIM-UNV-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] 10 SEP 2021

[MANUFAC] WILLIAMS INDOOR - CARTHAGE, MO.

[LUMCAT] V4DR-L20-835-DIM-UNV-LW-OF-WH

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

[MORE] erned 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	2021
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	65
Total Luminaire Watts	31.1
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	55786	55786	55786
55	45839	45839	45839
65	33535	33535	33535
75	23215	23215	23215
85	12655	12655	12655

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CANDELA TABULATION

	<u>0</u>
0.0	1420.036
0.5	1419.587
1.0	1418.690
1.5	1417.494
2.0	1416.297
2.5	1414.951
3.0	1413.156
3.5	1412.110
4.0	1411.362
4.5	1410.913
5.0	1410.315
5.5	1409.717
6.0	1409.268
6.5	1408.670
7.0	1408.221
7.5	1407.922
8.0	1407.772
8.5	1407.324
9.0	1406.875
9.5	1405.978
10.0	1405.380
10.5	1404.333
11.0	1403.286
11.5	1401.940
12.0	1400.444
12.5	1398.650
13.0	1396.556
13.5	1394.163
14.0	1391.172
14.5	1387.582
15.0	1383.245
15.5	1378.011
16.0	1372.178
16.5	1365.299
17.0	1357.821
17.5	1349.446
18.0	1339.575
18.5	1329.405
19.0	1318.338
19.5	1305.925
20.0	1292.315
20.5	1277.509
21.0	1261.507
21.5	1244.308
22.0	1225.314
22.5	1205.124
23.0	1183.438
23.5	1160.107
24.0	1134.982
24.5	1108.211
25.0	1079.198
25.5	1048.838
26.0	1016.384
26.5	981.986

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CANDELA TABULATION - (Cont.)

27.0	946.392
27.5	909.302
28.0	871.614
28.5	833.776
29.0	796.686
29.5	760.344
30.0	725.348
30.5	692.445
31.0	661.637
31.5	633.520
32.0	607.946
32.5	584.914
33.0	564.425
33.5	546.179
34.0	529.878
34.5	515.520
35.0	502.509
35.5	490.694
36.0	480.225
36.5	470.354
37.0	461.381
37.5	453.006
38.0	445.229
38.5	437.751
39.0	430.871
39.5	424.141
40.0	417.860
40.5	411.579
41.0	405.596
41.5	399.764
42.0	394.230
42.5	388.697
43.0	383.163
43.5	377.629
44.0	372.096
44.5	366.562
45.0	361.029
45.5	355.495
46.0	349.961
46.5	344.428
47.0	338.595
47.5	332.763
48.0	326.930
48.5	320.948
49.0	314.816
49.5	308.684
50.0	302.702
50.5	296.570
51.0	290.438
51.5	284.306
52.0	278.324
52.5	272.342
53.0	266.210
53.5	259.929
54.0	253.498
54.5	247.067

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CANDELA TABULATION - (Cont.)

55.0	240.636
55.5	234.205
56.0	227.924
56.5	221.792
57.0	215.660
57.5	209.528
58.0	203.546
58.5	197.713
59.0	191.881
59.5	186.197
60.0	180.664
60.5	175.130
61.0	169.746
61.5	164.512
62.0	159.277
62.5	154.043
63.0	149.048
63.5	144.082
64.0	139.207
64.5	134.406
65.0	129.710
65.5	125.134
66.0	120.617
66.5	116.220
67.0	111.928
67.5	107.710
68.0	103.627
68.5	99.634
69.0	95.641
69.5	91.783
70.0	88.029
70.5	84.335
71.0	80.730
71.5	77.216
72.0	73.821
72.5	70.471
73.0	67.211
73.5	64.040
74.0	60.929
74.5	57.923
75.0	54.992
75.5	52.150
76.0	49.369
76.5	46.662
77.0	44.074
77.5	41.502
78.0	39.019
78.5	36.611
79.0	34.248
79.5	31.975
80.0	29.747
80.5	27.578
81.0	25.440
81.5	23.361
82.0	21.327
82.5	19.353

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CANDELA TABULATION - (Cont.)

83.0	17.393
83.5	15.494
84.0	13.640
84.5	11.830
85.0	10.095
85.5	8.420
86.0	6.820
86.5	5.309
87.0	3.978
87.5	2.871
88.0	2.004
88.5	1.271
89.0	0.793
89.5	0.538
90.0	0.374
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
119.0	0.000
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
123.5	0.000
124.0	0.000
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
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
133.0	0.000
133.5	0.000
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

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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
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
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
157.0	0.000
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158.0	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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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	521.61	N.A.	25.80
0-30	1000.5	N.A.	49.50
0-40	1326.71	N.A.	65.60
0-60	1819.81	N.A.	90.00
0-80	2008.83	N.A.	99.40
0-90	2021.48	N.A.	100.00
10-90	1886.97	N.A.	93.30
20-40	805.10	N.A.	39.80
20-50	1083.14	N.A.	53.60
40-70	622.80	N.A.	30.80
60-80	189.03	N.A.	9.40
70-80	59.33	N.A.	2.90
80-90	12.64	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	2021.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	134.50
10-20	387.10
20-30	478.89
30-40	326.21
40-50	278.04
50-60	215.06
60-70	129.70
70-80	59.33
80-90	12.64
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	178	178	178	178	174	174	174	174	166	166	166	159	159	159	153	153	153	150
1	166	161	156	151	162	157	153	149	151	148	144	146	143	140	140	138	136	133
2	155	145	137	130	151	142	135	128	137	131	125	132	127	123	128	124	120	117
3	144	131	121	113	140	129	120	112	125	117	111	121	114	109	117	112	107	104
4	134	119	109	100	131	118	107	100	114	105	98	111	103	97	108	101	96	93
5	125	109	98	90	123	108	97	89	105	96	89	102	94	88	100	93	87	84
6	117	101	89	81	115	99	89	81	97	87	80	95	86	80	92	85	79	76
7	110	93	82	74	108	92	81	74	90	80	73	88	79	73	86	78	73	70
8	104	87	76	68	102	86	75	68	84	74	68	82	73	67	80	73	67	64
9	98	81	70	63	96	80	70	63	78	69	62	77	68	62	75	68	62	60
10	93	76	65	58	91	75	65	58	73	64	58	72	64	58	71	63	58	55

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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

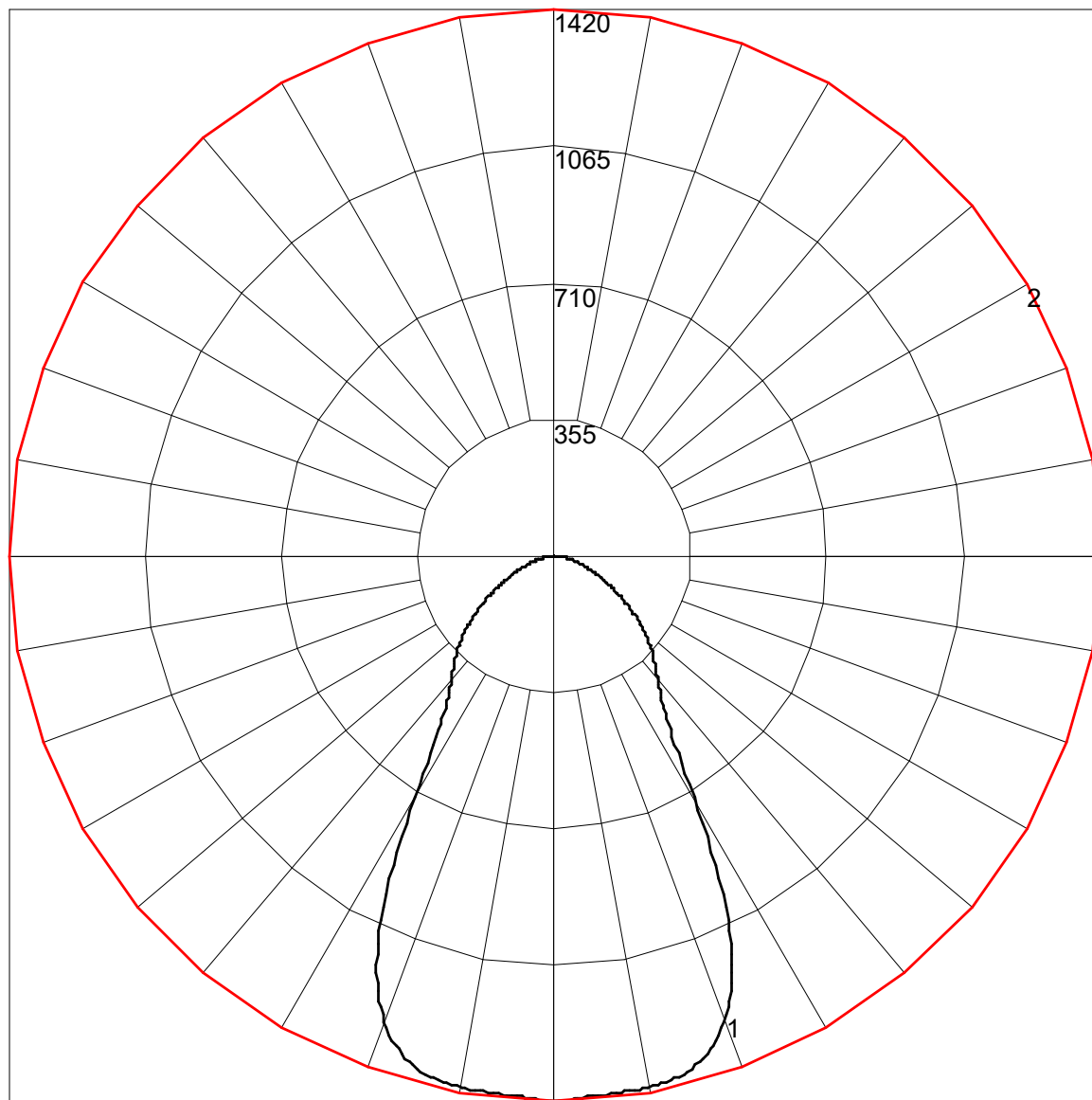
X=2H	Y=2H	21.7	23.1	22.1	23.4	23.7	21.7	23.1	22.1	23.4	23.7
	3H	22.8	24.0	23.2	24.4	24.7	22.8	24.0	23.2	24.4	24.7
	4H	23.2	24.3	23.6	24.6	25.0	23.2	24.3	23.6	24.6	25.0
	6H	23.4	24.4	23.8	24.8	25.2	23.4	24.4	23.8	24.8	25.2
	8H	23.4	24.4	23.9	24.8	25.2	23.4	24.4	23.9	24.8	25.2
	12H	23.4	24.4	23.9	24.8	25.2	23.4	24.4	23.9	24.8	25.2

UGR Viewed Endwise

4H	2H	22.1	23.2	22.5	23.6	23.9	22.1	23.2	22.5	23.6	23.9
	3H	23.4	24.3	23.8	24.7	25.1	23.4	24.3	23.8	24.7	25.1
	4H	23.8	24.7	24.2	25.1	25.5	23.8	24.7	24.2	25.1	25.5
	6H	24.1	24.9	24.6	25.3	25.8	24.1	24.9	24.6	25.3	25.8
	8H	24.2	24.9	24.7	25.3	25.8	24.2	24.9	24.7	25.3	25.8
	12H	24.2	24.8	24.7	25.3	25.8	24.2	24.8	24.7	25.3	25.8
8H	4H	23.9	24.6	24.4	25.1	25.5	23.9	24.6	24.4	25.1	25.5
	6H	24.3	24.9	24.8	25.4	25.9	24.3	24.9	24.8	25.4	25.9
	8H	24.4	24.9	24.9	25.4	25.9	24.4	24.9	24.9	25.4	25.9
	12H	24.5	24.9	25.0	25.4	26.0	24.5	24.9	25.0	25.4	26.0
12H	4H	23.9	24.5	24.4	25.0	25.5	23.9	24.5	24.4	25.0	25.5
	6H	24.3	24.8	24.9	25.3	25.8	24.3	24.8	24.9	25.3	25.8
	8H	24.5	24.9	25.0	25.4	26.0	24.5	24.9	25.0	25.4	26.0

Maximum UGR = 26.0

POLAR GRAPH



Maximum Candela = 1420.036 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.)