



IES INDOOR REPORT

PHOTOMETRIC FILENAME : V4DR-P23-835-POE-RN-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.15

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 6 OCT 2021

[MANUFAC] WILLIAMS INDOOR

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

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

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

[MORE] tic optic, clear glass 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	2982
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	88
Total Luminaire Watts	34
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.46
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	14925	14925	14925
55	9930	9930	9930
65	6835	6835	6835
75	4439	4439	4439
85	3578	3578	3578

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CANDELA TABULATION

	<u>0</u>
0.0	11184.606
0.5	11171.121
1.0	11135.721
1.5	11073.350
2.0	10989.065
2.5	10882.866
3.0	10756.439
3.5	10611.469
4.0	10447.956
4.5	10267.587
5.0	10072.046
5.5	9861.333
6.0	9635.450
6.5	9392.709
7.0	9136.483
7.5	8870.143
8.0	8593.689
8.5	8305.434
9.0	8012.123
9.5	7710.383
10.0	7406.957
10.5	7098.474
11.0	6788.306
11.5	6478.138
12.0	6169.655
12.5	5866.229
13.0	5564.489
13.5	5269.492
14.0	4979.552
14.5	4698.040
15.0	4426.643
15.5	4165.360
16.0	3910.819
16.5	3669.765
17.0	3438.824
17.5	3217.998
18.0	3008.971
18.5	2810.059
19.0	2622.946
19.5	2447.634
20.0	2282.435
20.5	2125.665
21.0	1979.009
21.5	1844.154
22.0	1714.355
22.5	1592.648
23.0	1476.671
23.5	1369.293
24.0	1269.162
24.5	1175.437
25.0	1087.950
25.5	1006.699
26.0	931.854
26.5	862.572

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CANDELA TABULATION - (Cont.)

27.0	798.684
27.5	739.853
28.0	685.742
28.5	636.520
29.0	591.174
29.5	549.538
30.0	511.272
30.5	475.873
31.0	443.676
31.5	414.007
32.0	386.531
32.5	361.245
33.0	338.151
33.5	316.911
34.0	297.189
34.5	279.152
35.0	262.800
35.5	247.629
36.0	233.806
36.5	221.164
37.0	209.532
37.5	198.912
38.0	189.135
38.5	180.201
39.0	172.110
39.5	164.524
40.0	157.444
40.5	150.870
41.0	144.801
41.5	139.070
42.0	133.844
42.5	128.956
43.0	124.236
43.5	119.853
44.0	115.807
44.5	111.930
45.0	108.390
45.5	104.850
46.0	101.648
46.5	98.445
47.0	95.411
47.5	92.376
48.0	89.511
48.5	86.813
49.0	84.116
49.5	81.588
50.0	79.059
50.5	76.699
51.0	74.339
51.5	72.148
52.0	69.956
52.5	67.934
53.0	65.911
53.5	63.888
54.0	62.034
54.5	60.348

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CANDELA TABULATION - (Cont.)

55.0	58.494
55.5	56.808
56.0	55.122
56.5	53.437
57.0	51.919
57.5	50.402
58.0	48.717
58.5	47.200
59.0	45.851
59.5	44.334
60.0	42.817
60.5	41.468
61.0	40.120
61.5	38.771
62.0	37.422
62.5	36.074
63.0	34.725
63.5	33.377
64.0	32.197
64.5	31.017
65.0	29.668
65.5	28.488
66.0	27.308
66.5	26.128
67.0	25.117
67.5	23.937
68.0	22.925
68.5	21.746
69.0	20.734
69.5	19.723
70.0	18.711
70.5	17.868
71.0	17.026
71.5	16.183
72.0	15.508
72.5	14.666
73.0	13.991
73.5	13.486
74.0	12.811
74.5	12.306
75.0	11.800
75.5	11.294
76.0	10.788
76.5	10.283
77.0	9.777
77.5	9.271
78.0	8.934
78.5	8.428
79.0	7.923
79.5	7.586
80.0	7.080
80.5	6.574
81.0	6.237
81.5	5.731
82.0	5.394
82.5	5.057

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CANDELA TABULATION - (Cont.)

83.0	4.551
83.5	4.214
84.0	3.877
84.5	3.540
85.0	3.203
85.5	2.866
86.0	2.360
86.5	2.191
87.0	1.854
87.5	1.517
88.0	1.180
88.5	0.843
89.0	0.674
89.5	0.506
90.0	0.337
90.5	0.337
91.0	0.169
91.5	0.000
92.0	0.169
92.5	0.169
93.0	0.169
93.5	0.169
94.0	0.000
94.5	0.169
95.0	0.169
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	0.169
103.0	0.000
103.5	0.169
104.0	0.169
104.5	0.169
105.0	0.169
105.5	0.169
106.0	0.169
106.5	0.169
107.0	0.169
107.5	0.000
108.0	0.169
108.5	0.169
109.0	0.169
109.5	0.169
110.0	0.169
110.5	0.169

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CANDELA TABULATION - (Cont.)

111.0	0.169
111.5	0.169
112.0	0.169
112.5	0.169
113.0	0.169
113.5	0.169
114.0	0.169
114.5	0.169
115.0	0.169
115.5	0.169
116.0	0.169
116.5	0.169
117.0	0.169
117.5	0.169
118.0	0.169
118.5	0.169
119.0	0.169
119.5	0.169
120.0	0.169
120.5	0.169
121.0	0.169
121.5	0.169
122.0	0.169
122.5	0.169
123.0	0.169
123.5	0.169
124.0	0.169
124.5	0.169
125.0	0.169
125.5	0.169
126.0	0.169
126.5	0.169
127.0	0.169
127.5	0.169
128.0	0.169
128.5	0.169
129.0	0.169
129.5	0.169
130.0	0.169
130.5	0.169
131.0	0.337
131.5	0.337
132.0	0.337
132.5	0.337
133.0	0.337
133.5	0.337
134.0	0.337
134.5	0.337
135.0	0.506
135.5	0.506
136.0	0.506
136.5	0.506
137.0	0.506
137.5	0.674
138.0	0.674
138.5	0.674

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CANDELA TABULATION - (Cont.)

139.0	0.674
139.5	0.843
140.0	0.843
140.5	0.843
141.0	1.011
141.5	1.011
142.0	1.011
142.5	1.180
143.0	1.180
143.5	1.180
144.0	1.349
144.5	1.349
145.0	1.517
145.5	1.517
146.0	1.686
146.5	1.686
147.0	1.854
147.5	1.854
148.0	2.023
148.5	2.023
149.0	2.191
149.5	2.191
150.0	2.360
150.5	2.360
151.0	2.529
151.5	2.529
152.0	2.697
152.5	2.697
153.0	2.866
153.5	2.866
154.0	3.034
154.5	3.034
155.0	3.203
155.5	3.203
156.0	3.371
156.5	3.371
157.0	3.371
157.5	3.540
158.0	3.540
158.5	3.709
159.0	3.709
159.5	3.709
160.0	3.877
160.5	3.877
161.0	3.877
161.5	3.877
162.0	4.046
162.5	4.046
163.0	4.046
163.5	4.046
164.0	4.046
164.5	4.046
165.0	4.046
165.5	4.046
166.0	4.214
166.5	4.046

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CANDELA TABULATION - (Cont.)

167.0	4.214
167.5	4.214
168.0	4.214
168.5	4.046
169.0	4.046
169.5	4.046
170.0	4.046
170.5	4.046
171.0	4.046
171.5	4.046
172.0	4.046
172.5	4.046
173.0	4.046
173.5	4.046
174.0	4.046
174.5	4.046
175.0	4.046
175.5	4.046
176.0	4.046
176.5	4.046
177.0	4.046
177.5	3.877
178.0	3.877
178.5	3.877
179.0	3.877
179.5	3.877
180.0	3.877

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2091.01	N.A.	70.10
0-30	2617.56	N.A.	87.80
0-40	2793.03	N.A.	93.70
0-60	2931.45	N.A.	98.30
0-80	2973.95	N.A.	99.70
0-90	2977.54	N.A.	99.80
10-90	2102.95	N.A.	70.50
20-40	702.02	N.A.	23.50
20-50	787.55	N.A.	26.40
40-70	168.13	N.A.	5.60
60-80	42.50	N.A.	1.40
70-80	12.80	N.A.	0.40
80-90	3.60	N.A.	0.10
90-110	0.21	N.A.	0.00
90-120	0.38	N.A.	0.00
90-130	0.53	N.A.	0.00
90-150	1.82	N.A.	0.10
90-180	4.77	N.A.	0.20
110-180	4.56	N.A.	0.20
0-180	2982.32	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	874.60
10-20	1216.41
20-30	526.56
30-40	175.46
40-50	85.53
50-60	52.90
60-70	29.70
70-80	12.80
80-90	3.60
90-100	0.09
100-110	0.12
110-120	0.17
120-130	0.15
130-140	0.36
140-150	0.93
150-160	1.42
160-170	1.14
170-180	0.38

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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	137
1	157	154	151	149	154	151	149	146	146	144	142	141	139	137	136	135	133	131
2	151	146	141	137	148	143	139	136	139	136	133	135	132	130	131	129	127	125
3	146	138	133	128	143	136	131	127	133	129	125	130	126	123	127	124	121	119
4	140	132	126	121	138	130	125	120	128	123	119	125	121	118	122	119	116	114
5	135	126	120	115	133	125	119	114	123	117	113	120	116	112	118	115	112	110
6	131	121	114	110	129	120	114	109	118	113	109	116	112	108	115	111	107	106
7	126	116	110	105	125	116	109	105	114	108	105	112	108	104	111	107	103	102
8	122	112	106	101	121	111	105	101	110	105	101	109	104	100	108	103	100	98
9	119	108	102	98	117	108	102	98	107	101	97	105	100	97	104	100	97	95
10	115	105	99	94	114	104	98	94	103	98	94	102	97	94	101	97	94	92

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UGR TABLE - CORRECTED

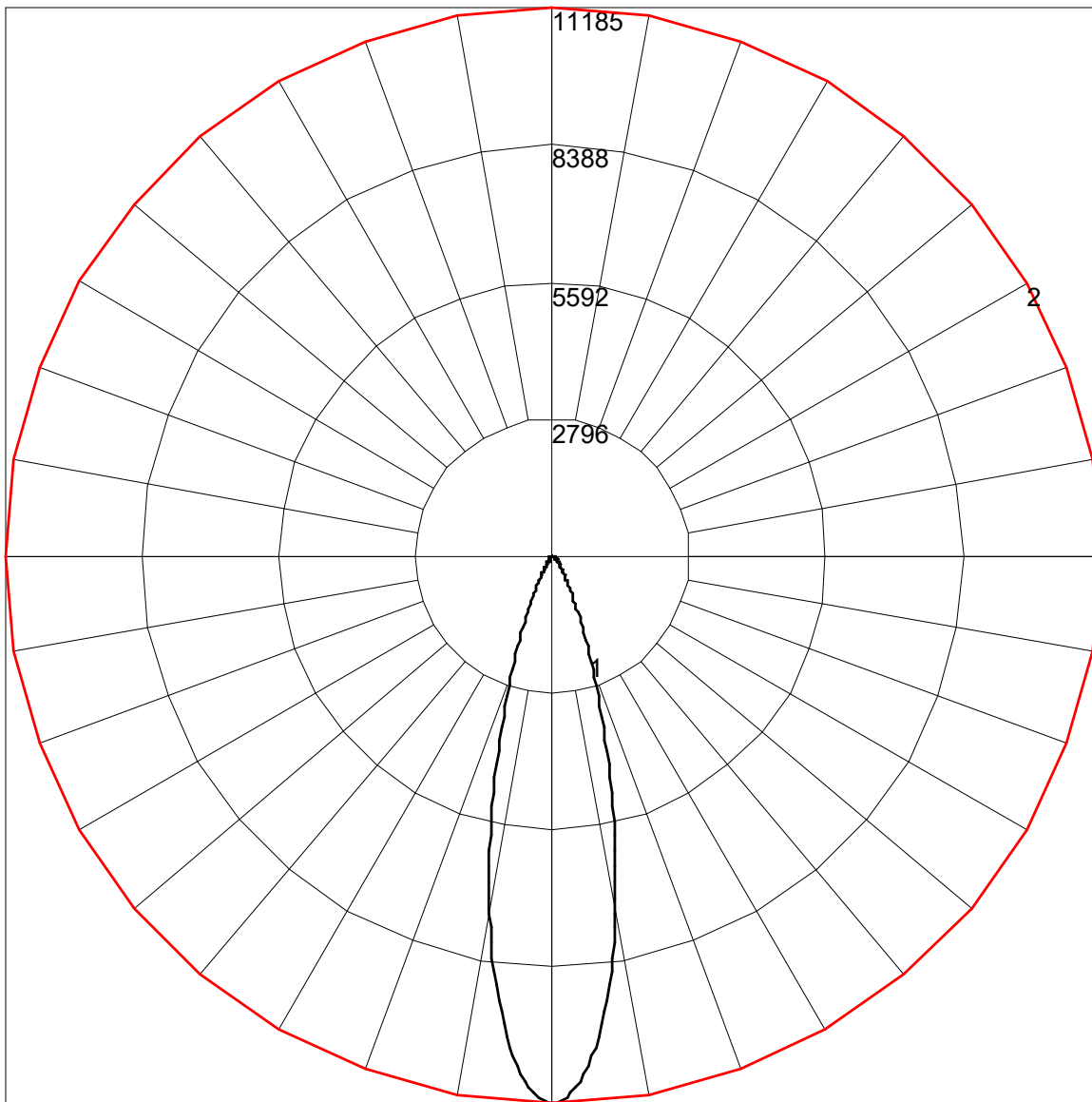
Reflectances

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	10.8	11.8	11.2	12.1	12.4	10.8	11.8	11.2	12.1	12.4
	3H	11.7	12.6	12.1	12.9	13.3	11.7	12.6	12.1	12.9	13.3
	4H	11.9	12.7	12.4	13.1	13.5	11.9	12.7	12.4	13.1	13.5
	6H	12.1	12.8	12.5	13.2	13.6	12.1	12.8	12.5	13.2	13.6
	8H	12.2	12.8	12.6	13.2	13.6	12.2	12.8	12.6	13.2	13.6
	12H	12.2	12.8	12.6	13.2	13.6	12.2	12.8	12.6	13.2	13.6
4H	2H	11.1	11.9	11.5	12.2	12.6	11.1	11.9	11.5	12.2	12.6
	3H	12.1	12.7	12.5	13.1	13.6	12.1	12.7	12.5	13.1	13.6
	4H	12.4	13.0	12.9	13.4	13.9	12.4	13.0	12.9	13.4	13.9
	6H	12.7	13.2	13.2	13.6	14.1	12.7	13.2	13.2	13.6	14.1
	8H	12.8	13.2	13.2	13.7	14.2	12.8	13.2	13.2	13.7	14.2
	12H	12.8	13.2	13.3	13.7	14.2	12.8	13.2	13.3	13.7	14.2
8H	4H	12.5	12.9	12.9	13.4	13.8	12.5	12.9	12.9	13.4	13.8
	6H	12.8	13.2	13.3	13.7	14.2	12.8	13.2	13.3	13.7	14.2
	8H	13.0	13.3	13.5	13.8	14.3	13.0	13.3	13.5	13.8	14.3
	12H	13.1	13.4	13.6	13.9	14.4	13.1	13.4	13.6	13.9	14.4
12H	4H	12.4	12.8	12.9	13.3	13.8	12.4	12.8	12.9	13.3	13.8
	6H	12.8	13.1	13.4	13.6	14.2	12.8	13.1	13.4	13.6	14.2
	8H	13.0	13.3	13.5	13.8	14.4	13.0	13.3	13.5	13.8	14.4

Maximum UGR = 14.4

POLAR GRAPH



Maximum Candela = 11184.606 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.)