



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-L12-840-DIM-UNV-RW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13257153.03
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 06/06/2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 2DR-L12-840-DIM-UNV-RW-OF-WH
 [LUMINAIRE] Aluminum housing, optics, and trim enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1326
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	14.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.88
Spacing Criterion (90-270)	0.88
Spacing Criterion (Diagonal)	0.80
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 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	47536	47536	47536
55	37616	37616	37616
65	28118	28118	28118
75	14640	14640	14640
85	8871	8871	8871

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CANDELA TABULATION

	<u>0</u>
0.0	1580.111
0.5	1580.111
1.0	1579.296
1.5	1578.482
2.0	1578.482
2.5	1576.853
3.0	1574.409
3.5	1571.151
4.0	1567.893
4.5	1564.635
5.0	1559.748
5.5	1555.676
6.0	1550.789
6.5	1545.088
7.0	1539.386
7.5	1533.685
8.0	1527.983
8.5	1521.467
9.0	1514.137
9.5	1507.621
10.0	1500.291
10.5	1492.146
11.0	1483.186
11.5	1474.227
12.0	1464.453
12.5	1454.679
13.0	1444.091
13.5	1432.688
14.0	1420.471
14.5	1408.253
15.0	1394.407
15.5	1380.561
16.0	1365.085
16.5	1349.610
17.0	1333.320
17.5	1316.216
18.0	1298.297
18.5	1278.749
19.0	1258.387
19.5	1236.396
20.0	1213.590
20.5	1189.970
21.0	1164.721
21.5	1138.657
22.0	1110.150
22.5	1081.643
23.0	1051.507
23.5	1020.556
24.0	987.976
24.5	955.397
25.0	922.003
25.5	886.980
26.0	851.142
26.5	815.305

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CANDELA TABULATION - (Cont.)

27.0	779.711
27.5	743.955
28.0	707.873
28.5	671.954
29.0	635.221
29.5	598.243
30.0	561.591
30.5	525.509
31.0	489.916
31.5	455.544
32.0	422.476
32.5	391.200
33.0	362.204
33.5	335.326
34.0	310.321
34.5	287.434
35.0	266.664
35.5	247.605
36.0	230.338
36.5	214.862
37.0	201.098
37.5	188.799
38.0	177.640
38.5	167.703
39.0	158.988
39.5	151.332
40.0	144.491
40.5	138.545
41.0	133.251
41.5	128.527
42.0	124.291
42.5	120.545
43.0	117.124
43.5	114.110
44.0	111.259
44.5	108.653
45.0	106.209
45.5	103.847
46.0	101.648
46.5	99.449
47.0	97.413
47.5	95.377
48.0	93.341
48.5	91.386
49.0	89.431
49.5	87.476
50.0	85.603
50.5	83.811
51.0	81.938
51.5	80.146
52.0	78.435
52.5	76.644
53.0	74.933
53.5	73.223
54.0	71.512
54.5	69.802

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CANDELA TABULATION - (Cont.)

55.0	68.173
55.5	66.544
56.0	64.915
56.5	63.286
57.0	61.657
57.5	60.109
58.0	58.480
58.5	56.933
59.0	55.385
59.5	53.919
60.0	52.372
60.5	50.824
61.0	49.277
61.5	47.811
62.0	46.263
62.5	44.797
63.0	43.331
63.5	41.865
64.0	40.399
64.5	38.933
65.0	37.548
65.5	36.163
66.0	34.779
66.5	33.313
67.0	32.009
67.5	30.706
68.0	29.322
68.5	28.018
69.0	26.715
69.5	25.412
70.0	24.190
70.5	22.887
71.0	21.665
71.5	20.362
72.0	19.141
72.5	17.919
73.0	16.697
73.5	15.475
74.0	14.335
74.5	13.113
75.0	11.973
75.5	10.914
76.0	9.855
76.5	9.041
77.0	8.308
77.5	7.656
78.0	7.168
78.5	6.760
79.0	6.434
79.5	6.109
80.0	5.701
80.5	5.376
81.0	5.050
81.5	4.724
82.0	4.317
82.5	3.991

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CANDELA TABULATION - (Cont.)

83.0	3.747
83.5	3.421
84.0	3.095
84.5	2.769
85.0	2.443
85.5	2.199
86.0	1.873
86.5	1.629
87.0	1.303
87.5	1.059
88.0	0.814
88.5	0.570
89.0	0.326
89.5	0.244
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
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
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125.5	0.000
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126.5	0.000
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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
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157.5	0.000
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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	534.44	N.A.	40.30
0-30	946.10	N.A.	71.40
0-40	1127.23	N.A.	85.00
0-60	1272.01	N.A.	95.90
0-80	1323.05	N.A.	99.80
0-90	1325.86	N.A.	100.00
10-90	1178.89	N.A.	88.90
20-40	592.79	N.A.	44.70
20-50	676.47	N.A.	51.00
40-70	182.10	N.A.	13.70
60-80	51.03	N.A.	3.80
70-80	13.71	N.A.	1.00
80-90	2.82	N.A.	0.20
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	1325.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	146.98
10-20	387.47
20-30	411.66
30-40	181.13
40-50	83.68
50-60	61.10
60-70	37.32
70-80	13.71
80-90	2.82
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	79
4	96	88	82	78	94	87	81	77	84	80	76	82	78	75	81	77	74	73
5	91	82	76	72	89	81	75	71	79	74	71	78	73	70	76	72	69	68
6	86	77	71	66	85	76	70	66	75	70	66	73	69	65	72	68	65	63
7	82	72	66	62	81	72	66	62	71	65	61	69	65	61	68	64	61	59
8	78	68	62	58	77	68	62	58	67	61	58	66	61	57	65	60	57	56
9	75	65	59	55	73	64	58	55	63	58	54	62	58	54	61	57	54	53
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50

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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

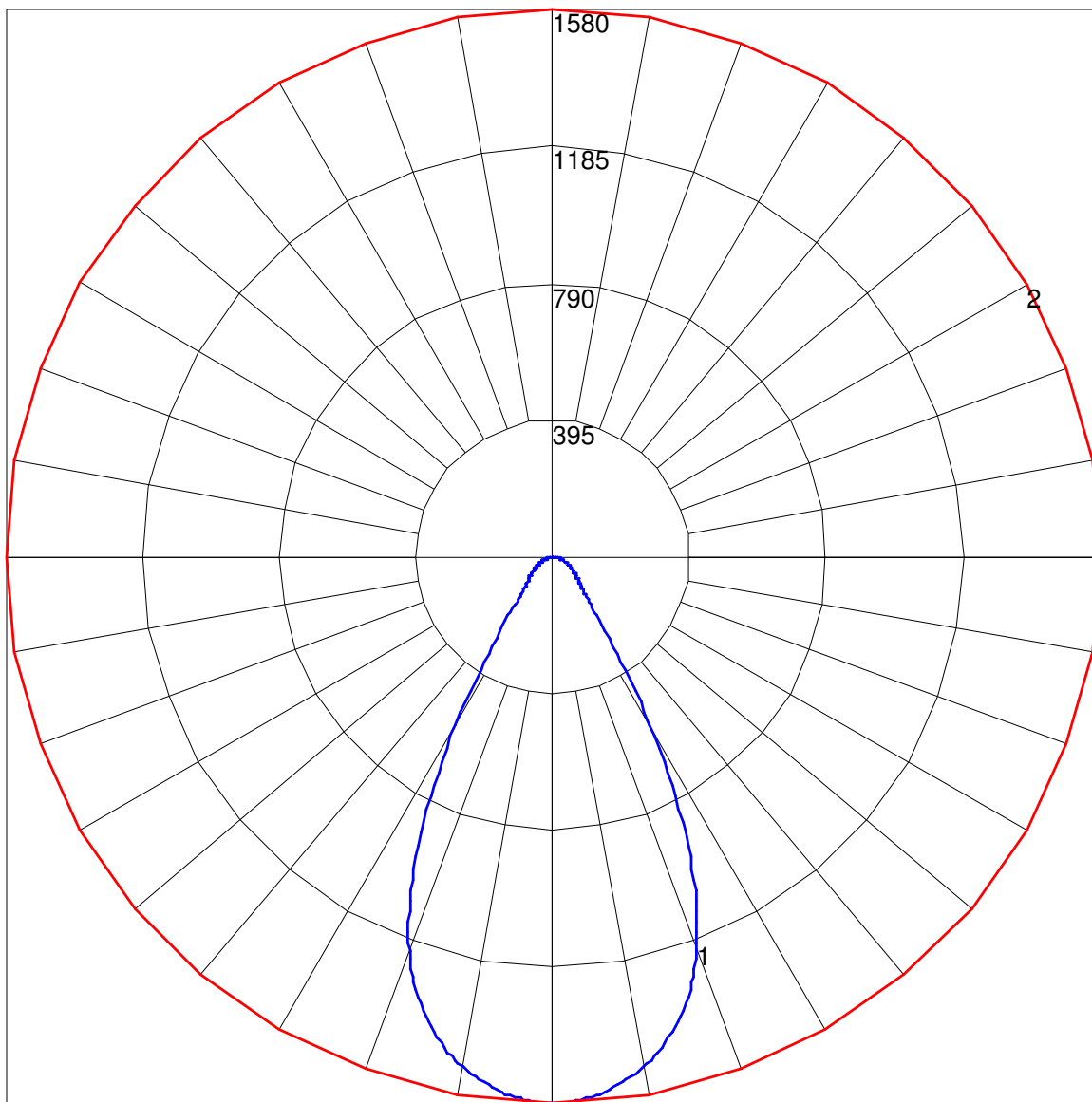
X=2H	Y=2H	19.9	21.0	20.3	21.3	21.6	19.9	21.0	20.3	21.3	21.6
	3H	20.9	21.9	21.3	22.2	22.6	20.9	21.9	21.3	22.2	22.6
	4H	21.1	22.0	21.5	22.4	22.8	21.1	22.0	21.5	22.4	22.8
	6H	21.1	22.0	21.6	22.4	22.8	21.1	22.0	21.6	22.4	22.8
	8H	21.1	21.9	21.6	22.3	22.7	21.1	21.9	21.6	22.3	22.7
	12H	21.1	21.9	21.6	22.3	22.7	21.1	21.9	21.6	22.3	22.7

UGR Viewed Endwise

4H	2H	20.2	21.1	20.6	21.5	21.9	20.2	21.1	20.6	21.5	21.9
	3H	21.4	22.1	21.8	22.6	23.0	21.4	22.1	21.8	22.6	23.0
	4H	21.6	22.3	22.1	22.7	23.2	21.6	22.3	22.1	22.7	23.2
	6H	21.7	22.3	22.2	22.7	23.2	21.7	22.3	22.2	22.7	23.2
	8H	21.7	22.2	22.2	22.7	23.2	21.7	22.2	22.2	22.7	23.2
	12H	21.7	22.2	22.2	22.7	23.1	21.7	22.2	22.2	22.7	23.1
8H	4H	21.6	22.2	22.1	22.6	23.1	21.6	22.2	22.1	22.6	23.1
	6H	21.8	22.2	22.3	22.7	23.2	21.8	22.2	22.3	22.7	23.2
	8H	21.8	22.2	22.3	22.7	23.2	21.8	22.2	22.3	22.7	23.2
	12H	21.8	22.1	22.3	22.6	23.2	21.8	22.1	22.3	22.6	23.2
12H	4H	21.6	22.0	22.1	22.5	23.0	21.6	22.0	22.1	22.5	23.0
	6H	21.7	22.1	22.3	22.6	23.1	21.7	22.1	22.3	22.6	23.1
	8H	21.8	22.1	22.3	22.6	23.2	21.8	22.1	22.3	22.6	23.2

Maximum UGR = 23.2

POLAR GRAPH



Maximum Candela = 1580.111 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)