



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 2DR-L5-840-DIM-UNV-ON-OF-CS-WET-CC_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13131414.09
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 06/04/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 2DR-L5-840-DIM-UNV-ON-OF-CS-WET-CC
 [LUMINAIRE] Aluminum housing and reflector, no lens 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	348
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	52
Total Luminaire Watts	6.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.28
Spacing Criterion (90-270)	0.28
Spacing Criterion (Diagonal)	0.32
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	1512	1512	1512
55	785	785	785
65	666	666	666
75	869	869	869
85	1935	1935	1935

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CANDELA TABULATION

	<u>0</u>
0.0	2299.254
0.5	2293.919
1.0	2272.581
1.5	2242.351
2.0	2201.451
2.5	2148.104
3.0	2084.088
3.5	2009.402
4.0	1927.603
4.5	1842.248
5.0	1756.538
5.5	1663.892
6.0	1565.911
6.5	1466.330
7.0	1366.393
7.5	1266.635
8.0	1171.677
8.5	1082.588
9.0	998.833
9.5	920.413
10.0	847.150
10.5	779.755
11.0	718.406
11.5	663.814
12.0	616.157
12.5	573.835
13.0	535.426
13.5	500.750
14.0	469.453
14.5	441.179
15.0	415.751
15.5	392.811
16.0	372.717
16.5	354.402
17.0	338.220
17.5	323.460
18.0	309.946
18.5	297.143
19.0	285.228
19.5	274.381
20.0	264.423
20.5	254.643
21.0	245.218
21.5	235.794
22.0	226.369
22.5	216.589
23.0	206.808
23.5	196.672
24.0	186.359
24.5	175.689
25.0	164.664
25.5	153.639
26.0	142.436
26.5	131.411

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CANDELA TABULATION - (Cont.)

27.0	120.208
27.5	109.183
28.0	98.336
28.5	88.022
29.0	77.887
29.5	68.284
30.0	59.393
30.5	50.857
31.0	43.389
31.5	36.809
32.0	30.941
32.5	25.962
33.0	21.872
33.5	18.316
34.0	15.293
34.5	12.803
35.0	10.847
35.5	9.247
36.0	8.358
36.5	7.646
37.0	7.291
37.5	6.935
38.0	6.579
38.5	6.224
39.0	6.046
39.5	5.868
40.0	5.513
40.5	5.335
41.0	5.157
41.5	4.801
42.0	4.623
42.5	4.446
43.0	4.268
43.5	3.912
44.0	3.734
44.5	3.556
45.0	3.379
45.5	3.201
46.0	3.201
46.5	2.845
47.0	2.845
47.5	2.667
48.0	2.490
48.5	2.312
49.0	2.312
49.5	2.134
50.0	2.134
50.5	1.956
51.0	1.956
51.5	1.778
52.0	1.778
52.5	1.778
53.0	1.600
53.5	1.600
54.0	1.600
54.5	1.423

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CANDELA TABULATION - (Cont.)

55.0	1.423
55.5	1.423
56.0	1.423
56.5	1.245
57.0	1.245
57.5	1.245
58.0	1.245
58.5	1.245
59.0	1.067
59.5	1.067
60.0	1.067
60.5	1.067
61.0	1.067
61.5	0.889
62.0	1.067
62.5	0.889
63.0	0.889
63.5	0.889
64.0	0.889
64.5	0.889
65.0	0.889
65.5	0.889
66.0	0.889
66.5	0.889
67.0	0.711
67.5	0.889
68.0	0.889
68.5	0.889
69.0	0.711
69.5	0.711
70.0	0.711
70.5	0.711
71.0	0.711
71.5	0.711
72.0	0.711
72.5	0.711
73.0	0.711
73.5	0.711
74.0	0.711
74.5	0.711
75.0	0.711
75.5	0.711
76.0	0.533
76.5	0.533
77.0	0.533
77.5	0.711
78.0	0.533
78.5	0.533
79.0	0.711
79.5	0.711
80.0	0.711
80.5	0.533
81.0	0.711
81.5	0.711
82.0	0.711
82.5	0.533

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CANDELA TABULATION - (Cont.)

83.0	0.533
83.5	0.711
84.0	0.533
84.5	0.711
85.0	0.533
85.5	0.533
86.0	0.533
86.5	0.533
87.0	0.533
87.5	0.711
88.0	0.711
88.5	0.533
89.0	0.711
89.5	0.533
90.0	0.533
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
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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
157.0	0.000
157.5	0.000
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	258.45	N.A.	74.30
0-30	330.88	N.A.	95.10
0-40	341.70	N.A.	98.20
0-60	345.73	N.A.	99.30
0-80	347.32	N.A.	99.80
0-90	347.98	N.A.	100.00
10-90	211.91	N.A.	60.90
20-40	83.25	N.A.	23.90
20-50	85.96	N.A.	24.70
40-70	4.91	N.A.	1.40
60-80	1.59	N.A.	0.50
70-80	0.70	N.A.	0.20
80-90	0.66	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	348.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	136.08
10-20	122.38
20-30	72.42
30-40	10.82
40-50	2.71
50-60	1.32
60-70	0.88
70-80	0.70
80-90	0.66
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	102	109	106	103	101	103	100	99	100	98	96	97	96	94	93
3	108	103	99	96	106	101	98	95	99	96	94	97	94	93	95	93	91	90
4	104	99	95	92	103	98	94	91	96	93	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	88	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	91	87	84	90	86	84	89	86	83	87	85	83	82
7	95	89	85	82	94	88	84	82	87	84	81	86	83	81	85	83	80	79
8	93	86	82	79	92	86	82	79	85	81	79	84	81	79	83	80	78	77
9	90	84	80	77	90	83	79	77	83	79	77	82	79	76	81	78	76	75
10	88	81	77	75	87	81	77	75	80	77	75	80	77	74	79	76	74	73

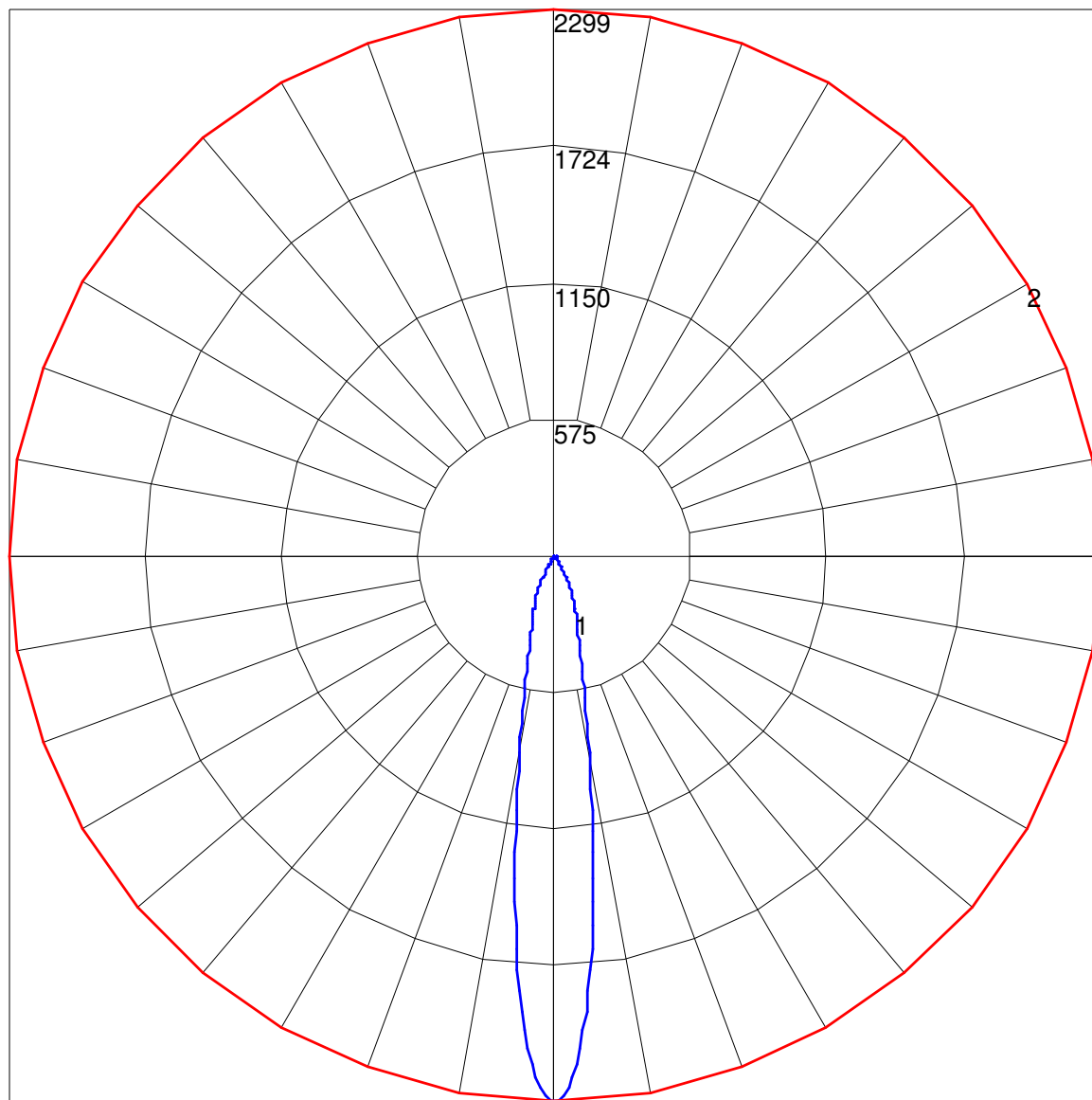
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UGR TABLE - CORRECTED

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											
X=2H Y=2H		UGR Viewed Crosswise					UGR Viewed Endwise				
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3H	0.1	0.9	0.4	1.2	1.6	0.1	0.9	0.4	1.2	1.6
	4H	1.0	1.8	1.5	2.1	2.5	1.0	1.8	1.5	2.1	2.5
	6H	2.5	3.1	2.9	3.5	3.9	2.5	3.1	2.9	3.5	3.9
	8H	3.2	3.8	3.6	4.2	4.6	3.2	3.8	3.6	4.2	4.6
	12H	4.0	4.6	4.5	5.0	5.4	4.0	4.6	4.5	5.0	5.4
4H	2H	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3H	0.7	1.3	1.1	1.7	2.1	0.7	1.3	1.1	1.7	2.1
	4H	1.9	2.5	2.4	2.9	3.3	1.9	2.5	2.4	2.9	3.3
	6H	3.5	4.0	4.0	4.4	4.9	3.5	4.0	4.0	4.4	4.9
	8H	4.4	4.8	4.9	5.3	5.7	4.4	4.8	4.9	5.3	5.7
	12H	5.4	5.8	5.9	6.3	6.7	5.4	5.8	5.9	6.3	6.7
8H	4H	2.3	2.7	2.8	3.1	3.6	2.3	2.7	2.8	3.1	3.6
	6H	4.2	4.5	4.7	5.0	5.5	4.2	4.5	4.7	5.0	5.5
	8H	5.3	5.6	5.8	6.1	6.6	5.3	5.6	5.8	6.1	6.6
	12H	6.6	6.9	7.1	7.4	7.9	6.6	6.9	7.1	7.4	7.9
12H	4H	2.4	2.8	2.9	3.3	3.7	2.4	2.8	2.9	3.3	3.7
	6H	4.5	4.8	5.0	5.2	5.8	4.5	4.8	5.0	5.2	5.8
	8H	5.7	5.9	6.2	6.4	7.0	5.7	5.9	6.2	6.4	7.0

Maximum UGR = 7.9

POLAR GRAPH



Maximum Candela = 2299.254 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.)