



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 2DR-L9-935-DIM-UNV-LW-OF-WH-PD-WET-CC_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM 13257153.02
[TESTLAB] UL Verification Services Inc.
[ISSUEDATE] 11/24/2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT] 2DR-L9-935-DIM-UNV-LW-OF-WH-PD-WET-CC
[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	678
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	63
Total Luminaire Watts	10.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.80
Spacing Criterion (90-270)	0.80
Spacing Criterion (Diagonal)	0.88
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	51559	51559	51559
55	49007	49007	49007
65	50737	50737	50737
75	52214	52214	52214
85	26014	26014	26014

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CANDELA TABULATION

	<u>0</u>
0.0	500.078
0.5	500.078
1.0	499.604
1.5	499.130
2.0	498.181
2.5	496.757
3.0	495.334
3.5	493.436
4.0	491.064
4.5	488.691
5.0	486.319
5.5	483.472
6.0	480.626
6.5	477.304
7.0	473.888
7.5	470.282
8.0	466.629
8.5	462.786
9.0	458.658
9.5	454.530
10.0	450.071
10.5	445.516
11.0	440.771
11.5	435.789
12.0	430.760
12.5	425.541
13.0	420.180
13.5	414.771
14.0	409.077
14.5	403.242
15.0	397.406
15.5	391.285
16.0	385.165
16.5	378.902
17.0	372.687
17.5	366.376
18.0	360.066
18.5	353.661
19.0	347.208
19.5	340.708
20.0	334.208
20.5	327.755
21.0	321.350
21.5	314.992
22.0	308.587
22.5	302.230
23.0	295.919
23.5	289.704
24.0	283.631
24.5	277.605
25.0	271.627
25.5	265.744
26.0	259.908
26.5	254.120

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CANDELA TABULATION - (Cont.)

27.0	248.474
27.5	242.970
28.0	237.466
28.5	232.010
29.0	226.648
29.5	221.335
30.0	216.115
30.5	210.944
31.0	205.867
31.5	200.885
32.0	195.998
32.5	191.206
33.0	186.604
33.5	182.144
34.0	177.827
34.5	173.699
35.0	169.714
35.5	165.823
36.0	162.122
36.5	158.516
37.0	155.100
37.5	151.826
38.0	148.648
38.5	145.564
39.0	142.575
39.5	139.728
40.0	136.976
40.5	134.319
41.0	131.804
41.5	129.385
42.0	127.060
42.5	124.830
43.0	122.695
43.5	120.702
44.0	118.757
44.5	116.954
45.0	115.198
45.5	113.538
46.0	111.925
46.5	110.359
47.0	108.793
47.5	107.322
48.0	105.852
48.5	104.428
49.0	103.052
49.5	101.724
50.0	100.395
50.5	99.162
51.0	97.928
51.5	96.694
52.0	95.556
52.5	94.417
53.0	93.278
53.5	92.140
54.0	91.048
54.5	89.957

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CANDELA TABULATION - (Cont.)

55.0	88.818
55.5	87.775
56.0	86.683
56.5	85.592
57.0	84.501
57.5	83.410
58.0	82.318
58.5	81.275
59.0	80.183
59.5	79.140
60.0	78.048
60.5	77.052
61.0	76.008
61.5	75.012
62.0	73.968
62.5	72.972
63.0	71.928
63.5	70.884
64.0	69.840
64.5	68.796
65.0	67.753
65.5	66.614
66.0	65.523
66.5	64.431
67.0	63.293
67.5	62.201
68.0	61.063
68.5	59.877
69.0	58.738
69.5	57.504
70.0	56.271
70.5	55.085
71.0	53.804
71.5	52.475
72.0	51.194
72.5	49.818
73.0	48.442
73.5	47.066
74.0	45.643
74.5	44.172
75.0	42.701
75.5	41.183
76.0	39.617
76.5	38.052
77.0	36.486
77.5	34.825
78.0	33.165
78.5	31.457
79.0	29.701
79.5	27.946
80.0	26.143
80.5	24.292
81.0	22.442
81.5	20.497
82.0	18.599
82.5	16.653

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CANDELA TABULATION - (Cont.)

83.0	14.756
83.5	12.810
84.0	10.865
84.5	8.967
85.0	7.164
85.5	5.504
86.0	4.033
86.5	2.894
87.0	2.040
87.5	1.328
88.0	0.949
88.5	0.712
89.0	0.474
89.5	0.380
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
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119.0	0.000
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121.0	0.000
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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

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
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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

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	155.58	N.A.	22.90
0-30	280.17	N.A.	41.30
0-40	387.24	N.A.	57.10
0-60	556.56	N.A.	82.10
0-80	667.97	N.A.	98.50
0-90	678.21	N.A.	100.00
10-90	632.96	N.A.	93.30
20-40	231.65	N.A.	34.20
20-50	321.37	N.A.	47.40
40-70	236.21	N.A.	34.80
60-80	111.41	N.A.	16.40
70-80	44.52	N.A.	6.60
80-90	10.24	N.A.	1.50
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	678.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	45.25
10-20	110.33
20-30	124.59
30-40	107.06
40-50	89.72
50-60	79.60
60-70	66.89
70-80	44.52
80-90	10.24
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	110	105	102	98	107	103	100	96	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	68	76	71	67	74	70	66	64
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	63	59	57
5	80	69	60	54	78	68	60	54	65	59	54	64	58	53	62	57	52	51
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41
8	66	54	46	41	65	53	46	40	52	45	40	51	44	40	49	44	40	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

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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

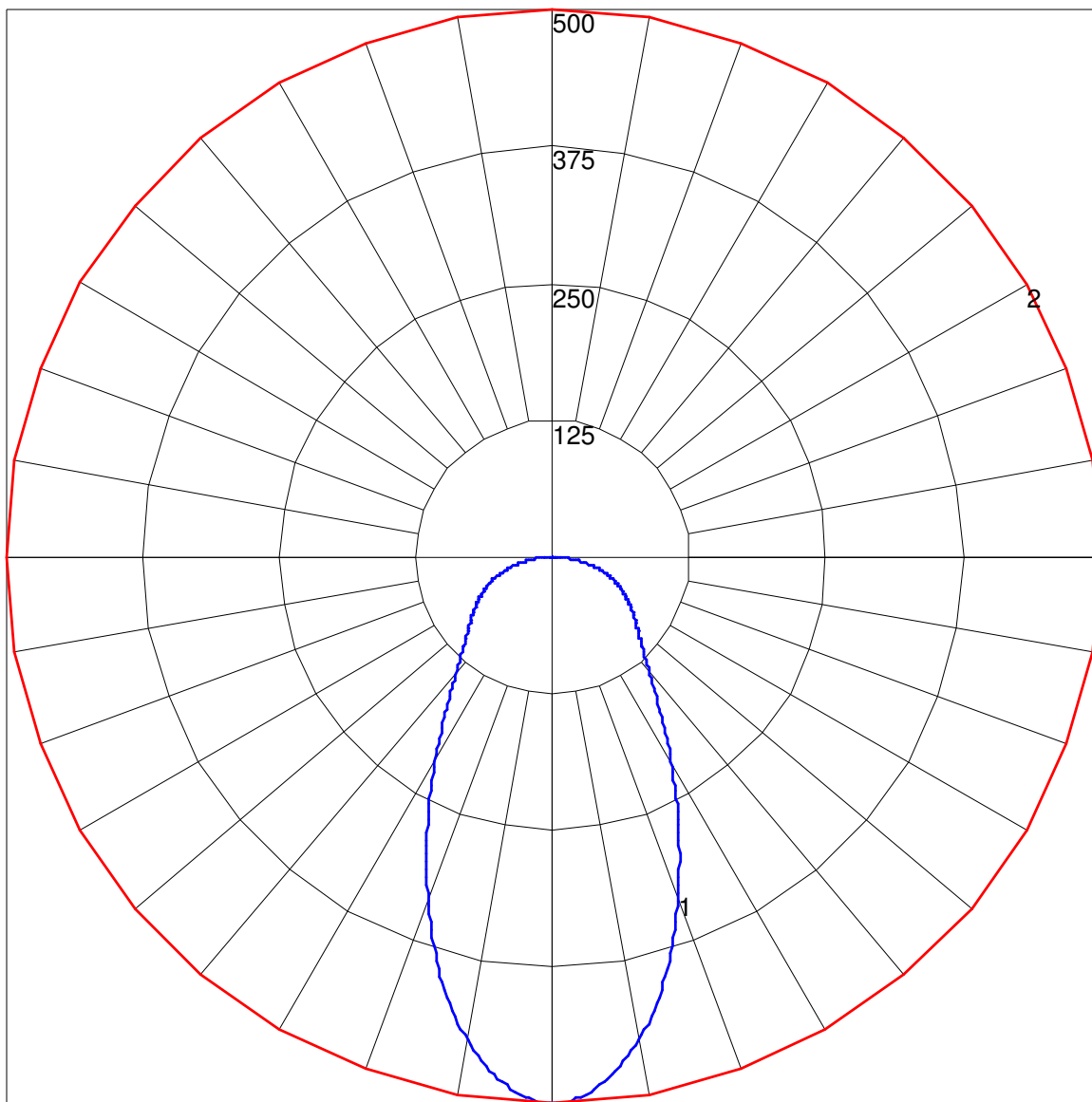
X=2H	Y=2H	24.1	25.5	24.4	25.9	26.2	24.1	25.5	24.4	25.9	26.2
	3H	26.3	27.7	26.7	28.0	28.4	26.3	27.7	26.7	28.0	28.4
	4H	27.2	28.5	27.6	28.9	29.2	27.2	28.5	27.6	28.9	29.2
	6H	27.9	29.1	28.3	29.5	29.9	27.9	29.1	28.3	29.5	29.9
	8H	28.1	29.2	28.5	29.6	30.0	28.1	29.2	28.5	29.6	30.0
	12H	28.2	29.2	28.6	29.6	30.1	28.2	29.2	28.6	29.6	30.1

UGR Viewed Endwise

4H	2H	24.8	26.1	25.2	26.4	26.8	24.8	26.1	25.2	26.4	26.8
	3H	27.3	28.3	27.7	28.7	29.1	27.3	28.3	27.7	28.7	29.1
	4H	28.3	29.3	28.8	29.7	30.2	28.3	29.3	28.8	29.7	30.2
	6H	29.1	30.0	29.6	30.4	30.9	29.1	30.0	29.6	30.4	30.9
	8H	29.4	30.2	29.8	30.6	31.1	29.4	30.2	29.8	30.6	31.1
	12H	29.5	30.2	30.0	30.7	31.1	29.5	30.2	30.0	30.7	31.1
8H	4H	28.7	29.5	29.2	30.0	30.4	28.7	29.5	29.2	30.0	30.4
	6H	29.7	30.3	30.2	30.8	31.3	29.7	30.3	30.2	30.8	31.3
	8H	29.9	30.5	30.5	31.1	31.5	29.9	30.5	30.5	31.1	31.5
	12H	30.1	30.6	30.6	31.1	31.7	30.1	30.6	30.6	31.1	31.7
12H	4H	28.8	29.5	29.3	30.0	30.4	28.8	29.5	29.3	30.0	30.4
	6H	29.7	30.3	30.3	30.8	31.3	29.7	30.3	30.3	30.8	31.3
	8H	30.1	30.6	30.6	31.1	31.6	30.1	30.6	30.6	31.1	31.6

Maximum UGR = 31.7

POLAR GRAPH



Maximum Candela = 500.078 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.)