

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4LDR-L20-940-BL-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] GEN FROM 4792018053.05  
[TESTLAB] UL, LLC  
[ISSUE DATE] 2025-12-10  
[TEST DATE] 11/11/2025  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
[LUMCAT] 4LDR-L20-940-BL-DIM-UNV  
[LUMINAIRE] 4" recessed downlight with textured black finish reflector  
[MORE] and top diffuser lens  
[LAMP] LED  
[BALLAST] 0-10V LED DRIVER

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	691
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	41
Total Luminaire Watts	17
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.94
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	8661	8661	8661
55	1122	1122	1122
65	389	389	389
75	168	168	168
85	111	111	111

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CANDELA TABULATION

	<u>0</u>
0.0	690.580
0.5	690.580
1.0	690.580
1.5	690.083
2.0	689.586
2.5	689.090
3.0	688.593
3.5	687.102
4.0	686.109
4.5	685.115
5.0	683.625
5.5	682.631
6.0	680.644
6.5	679.153
7.0	677.166
7.5	675.179
8.0	673.191
8.5	670.707
9.0	668.223
9.5	665.739
10.0	663.255
10.5	660.274
11.0	657.293
11.5	654.312
12.0	650.834
12.5	647.854
13.0	643.879
13.5	640.898
14.0	636.924
14.5	633.446
15.0	629.471
15.5	625.497
16.0	622.019
16.5	618.044
17.0	615.063
17.5	611.089
18.0	607.114
18.5	603.140
19.0	598.172
19.5	592.707
20.0	587.241
20.5	581.776
21.0	575.318
21.5	568.859
22.0	561.407
22.5	553.955
23.0	545.509
23.5	536.566
24.0	526.629
24.5	516.196
25.0	505.763
25.5	494.833
26.0	483.406
26.5	471.631

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**CANDELA TABULATION - (Cont.)**

27.0	459.559
27.5	447.138
28.0	434.420
28.5	421.502
29.0	408.535
29.5	395.419
30.0	382.353
30.5	369.187
31.0	355.972
31.5	342.806
32.0	329.740
32.5	316.773
33.0	303.955
33.5	291.385
34.0	279.014
34.5	266.743
35.0	254.769
35.5	242.995
36.0	231.419
36.5	219.942
37.0	208.764
37.5	197.734
38.0	186.953
38.5	176.371
39.0	165.938
39.5	155.654
40.0	145.668
40.5	135.930
41.0	126.441
41.5	117.250
42.0	108.356
42.5	99.761
43.0	91.614
43.5	83.814
44.0	76.411
44.5	69.455
45.0	62.897
45.5	56.737
46.0	51.023
46.5	45.757
47.0	40.938
47.5	36.516
48.0	32.492
48.5	28.816
49.0	25.537
49.5	22.605
50.0	19.972
50.5	17.637
51.0	15.600
51.5	13.861
52.0	12.321
52.5	10.980
53.0	9.837
53.5	8.843
54.0	7.999
54.5	7.254

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**CANDELA TABULATION - (Cont.)**

55.0	6.608
55.5	6.111
56.0	5.664
56.5	5.316
57.0	5.018
57.5	4.720
58.0	4.422
58.5	4.124
59.0	3.875
59.5	3.577
60.0	3.378
60.5	3.130
61.0	2.931
61.5	2.733
62.0	2.534
62.5	2.385
63.0	2.236
63.5	2.087
64.0	1.938
64.5	1.838
65.0	1.689
65.5	1.590
66.0	1.490
66.5	1.391
67.0	1.292
67.5	1.242
68.0	1.143
68.5	1.093
69.0	0.994
69.5	0.944
70.0	0.894
70.5	0.845
71.0	0.795
71.5	0.745
72.0	0.696
72.5	0.646
73.0	0.596
73.5	0.596
74.0	0.547
74.5	0.497
75.0	0.447
75.5	0.447
76.0	0.397
76.5	0.397
77.0	0.348
77.5	0.348
78.0	0.298
78.5	0.298
79.0	0.298
79.5	0.248
80.0	0.248
80.5	0.199
81.0	0.199
81.5	0.199
82.0	0.199
82.5	0.149

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CANDELA TABULATION - (Cont.)

83.0	0.149
83.5	0.149
84.0	0.099
84.5	0.099
85.0	0.099
85.5	0.099
86.0	0.099
86.5	0.050
87.0	0.050
87.5	0.050
88.0	0.050
88.5	0.050
89.0	0.050
89.5	0.050
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
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
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	241.68	N.A.	35.00
0-30	469.48	N.A.	68.00
0-40	628.47	N.A.	91.00
0-60	688.35	N.A.	99.60
0-80	690.70	N.A.	100.00
0-90	690.82	N.A.	100.00
10-90	626.20	N.A.	90.60
20-40	386.78	N.A.	56.00
20-50	439.39	N.A.	63.60
40-70	61.70	N.A.	8.90
60-80	2.34	N.A.	0.30
70-80	0.53	N.A.	0.10
80-90	0.12	N.A.	0.00
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	690.82	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	64.62
10-20	177.07
20-30	227.80
30-40	158.98
40-50	52.60
50-60	7.29
60-70	1.81
70-80	0.53
80-90	0.12
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	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86
3	102	95	90	86	100	94	89	86	91	88	84	89	86	83	87	84	82	80
4	97	89	83	79	95	88	83	78	86	81	78	84	80	77	82	78	76	74
5	92	83	77	73	90	82	76	72	80	75	72	79	74	71	77	73	70	69
6	87	78	72	67	85	77	71	67	75	70	66	74	69	66	73	69	66	64
7	82	73	67	62	81	72	66	62	71	66	62	70	65	61	68	64	61	60
8	78	68	62	58	77	68	62	58	67	61	58	66	61	57	65	60	57	56
9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52
10	71	61	55	51	70	60	55	51	59	54	51	59	54	50	58	53	50	49

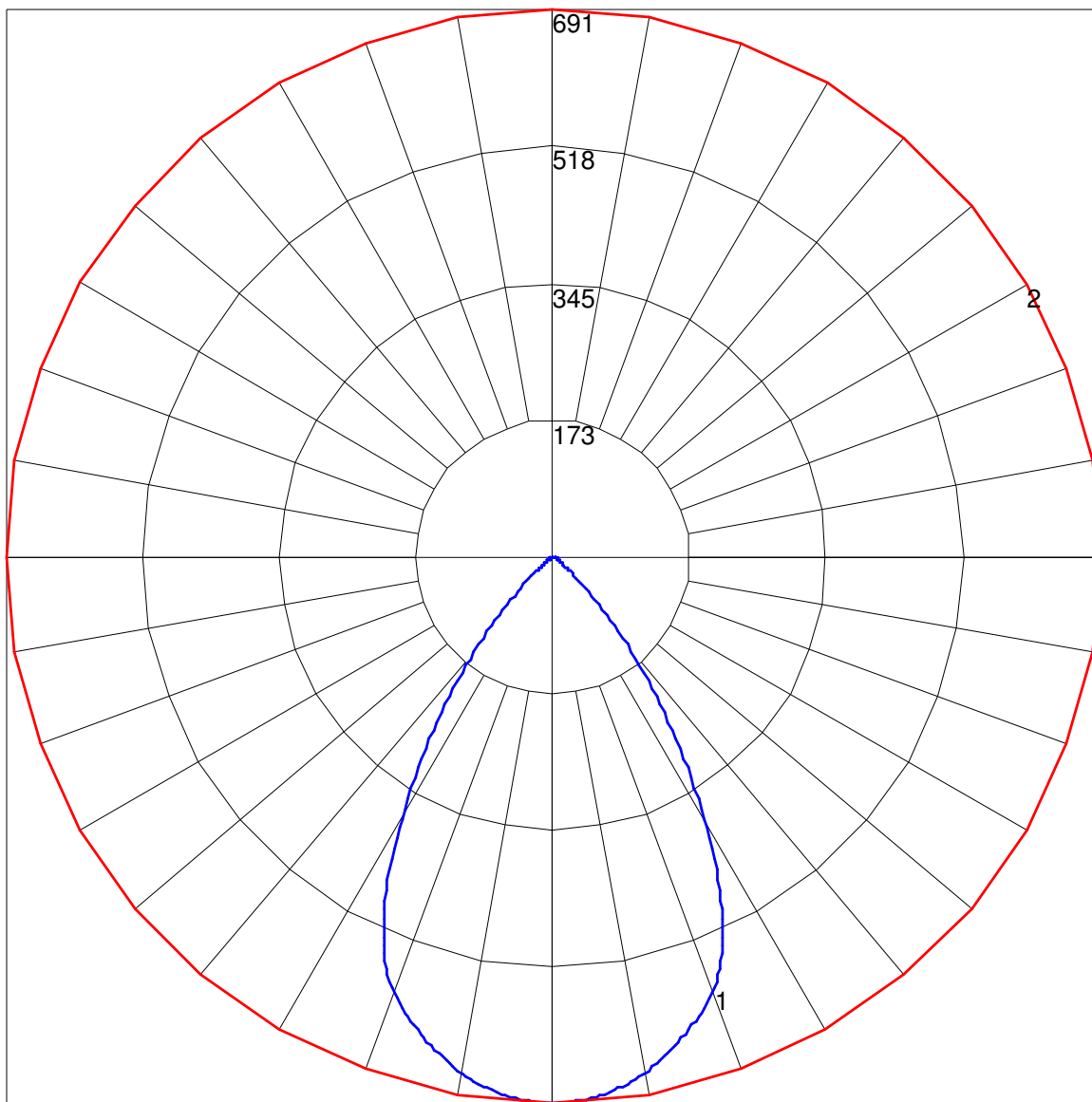
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**UGR TABLE - CORRECTED**

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	0.4	1.4	0.8	1.7	2.0	0.4	1.4	0.8	1.7	2.0
	3H	0.5	1.4	0.9	1.8	2.1	0.5	1.4	0.9	1.8	2.1
	4H	0.5	1.3	1.0	1.7	2.1	0.5	1.3	1.0	1.7	2.1
	6H	0.5	1.2	0.9	1.6	2.0	0.5	1.2	0.9	1.6	2.0
	8H	0.5	1.1	0.9	1.5	1.9	0.5	1.1	0.9	1.5	1.9
	12H	0.4	1.1	0.8	1.4	1.9	0.4	1.1	0.8	1.4	1.9
4H	2H	0.3	1.1	0.7	1.5	1.9	0.3	1.1	0.7	1.5	1.9
	3H	0.6	1.2	1.0	1.6	2.0	0.6	1.2	1.0	1.6	2.0
	4H	0.6	1.1	1.0	1.6	2.0	0.6	1.1	1.0	1.6	2.0
	6H	0.5	1.0	1.0	1.5	2.0	0.5	1.0	1.0	1.5	2.0
	8H	0.5	1.0	1.0	1.4	1.9	0.5	1.0	1.0	1.4	1.9
	12H	0.5	0.9	1.0	1.3	1.8	0.5	0.9	1.0	1.3	1.8
8H	4H	0.4	0.9	0.9	1.4	1.8	0.4	0.9	0.9	1.4	1.8
	6H	0.4	0.8	1.0	1.3	1.8	0.4	0.8	1.0	1.3	1.8
	8H	0.4	0.7	1.0	1.3	1.8	0.4	0.7	1.0	1.3	1.8
	12H	0.4	0.7	0.9	1.2	1.7	0.4	0.7	0.9	1.2	1.7
12H	4H	0.4	0.8	0.9	1.3	1.8	0.4	0.8	0.9	1.3	1.8
	6H	0.4	0.7	0.9	1.2	1.7	0.4	0.7	0.9	1.2	1.7
	8H	0.4	0.7	0.9	1.2	1.7	0.4	0.7	0.9	1.2	1.7

Maximum UGR = 2.1

POLAR GRAPH



Maximum Candela = 690.58 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.)