

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4LDR-L20-840-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-L20-840-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	827
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	49
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	10373	10373	10373
55	1343	1343	1343
65	466	466	466
75	202	202	202
85	133	133	133

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CANDELA TABULATION

	<u>0</u>
0.0	827.090
0.5	827.090
1.0	827.090
1.5	826.495
2.0	825.900
2.5	825.305
3.0	824.710
3.5	822.925
4.0	821.735
4.5	820.545
5.0	818.760
5.5	817.570
6.0	815.189
6.5	813.404
7.0	811.024
7.5	808.644
8.0	806.264
8.5	803.289
9.0	800.314
9.5	797.339
10.0	794.363
10.5	790.793
11.0	787.223
11.5	783.653
12.0	779.488
12.5	775.918
13.0	771.157
13.5	767.587
14.0	762.827
14.5	758.662
15.0	753.902
15.5	749.141
16.0	744.976
16.5	740.216
17.0	736.646
17.5	731.885
18.0	727.125
18.5	722.365
19.0	716.415
19.5	709.869
20.0	703.324
20.5	696.779
21.0	689.043
21.5	681.308
22.0	672.383
22.5	663.457
23.0	653.342
23.5	642.631
24.0	630.731
24.5	618.235
25.0	605.739
25.5	592.649
26.0	578.963
26.5	564.861

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**CANDELA TABULATION - (Cont.)**

27.0	550.402
27.5	535.526
28.0	520.293
28.5	504.822
29.0	489.292
29.5	473.583
30.0	457.934
30.5	442.166
31.0	426.338
31.5	410.570
32.0	394.921
32.5	379.390
33.0	364.039
33.5	348.984
34.0	334.168
34.5	319.471
35.0	305.131
35.5	291.029
36.0	277.164
36.5	263.419
37.0	250.031
37.5	236.821
38.0	223.909
38.5	211.235
39.0	198.740
39.5	186.423
40.0	174.462
40.5	162.800
41.0	151.435
41.5	140.427
42.0	129.776
42.5	119.482
43.0	109.723
43.5	100.381
44.0	91.515
44.5	83.185
45.0	75.331
45.5	67.952
46.0	61.109
46.5	54.802
47.0	49.030
47.5	43.735
48.0	38.915
48.5	34.512
49.0	30.584
49.5	27.074
50.0	23.920
50.5	21.124
51.0	18.684
51.5	16.601
52.0	14.757
52.5	13.150
53.0	11.782
53.5	10.592
54.0	9.580
54.5	8.687

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**CANDELA TABULATION - (Cont.)**

55.0	7.914
55.5	7.319
56.0	6.783
56.5	6.367
57.0	6.010
57.5	5.653
58.0	5.296
58.5	4.939
59.0	4.641
59.5	4.284
60.0	4.046
60.5	3.749
61.0	3.511
61.5	3.273
62.0	3.035
62.5	2.856
63.0	2.678
63.5	2.499
64.0	2.321
64.5	2.202
65.0	2.023
65.5	1.904
66.0	1.785
66.5	1.666
67.0	1.547
67.5	1.488
68.0	1.369
68.5	1.309
69.0	1.190
69.5	1.131
70.0	1.071
70.5	1.012
71.0	0.952
71.5	0.893
72.0	0.833
72.5	0.774
73.0	0.714
73.5	0.714
74.0	0.655
74.5	0.595
75.0	0.536
75.5	0.536
76.0	0.476
76.5	0.476
77.0	0.417
77.5	0.417
78.0	0.357
78.5	0.357
79.0	0.357
79.5	0.298
80.0	0.298
80.5	0.238
81.0	0.238
81.5	0.238
82.0	0.238
82.5	0.179

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CANDELA TABULATION - (Cont.)

83.0	0.179
83.5	0.179
84.0	0.119
84.5	0.119
85.0	0.119
85.5	0.119
86.0	0.119
86.5	0.060
87.0	0.060
87.5	0.060
88.0	0.060
88.5	0.060
89.0	0.060
89.5	0.060
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	289.46	N.A.	35.00
0-30	562.29	N.A.	68.00
0-40	752.70	N.A.	91.00
0-60	824.42	N.A.	99.60
0-80	827.23	N.A.	100.00
0-90	827.37	N.A.	100.00
10-90	749.98	N.A.	90.60
20-40	463.24	N.A.	56.00
20-50	526.24	N.A.	63.60
40-70	73.90	N.A.	8.90
60-80	2.80	N.A.	0.30
70-80	0.63	N.A.	0.10
80-90	0.14	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	827.37	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	77.39
10-20	212.07
20-30	272.83
30-40	190.41
40-50	63.00
50-60	8.73
60-70	2.17
70-80	0.63
80-90	0.14
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	87
3	102	96	90	86	100	94	89	86	91	88	84	89	86	83	87	84	82	80
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74
5	92	83	77	73	90	82	77	72	80	75	72	79	74	71	77	73	70	69
6	87	78	72	67	85	77	71	67	75	70	67	74	69	66	73	69	66	64
7	82	73	67	62	81	72	66	62	71	66	62	70	65	62	69	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	54	50	49

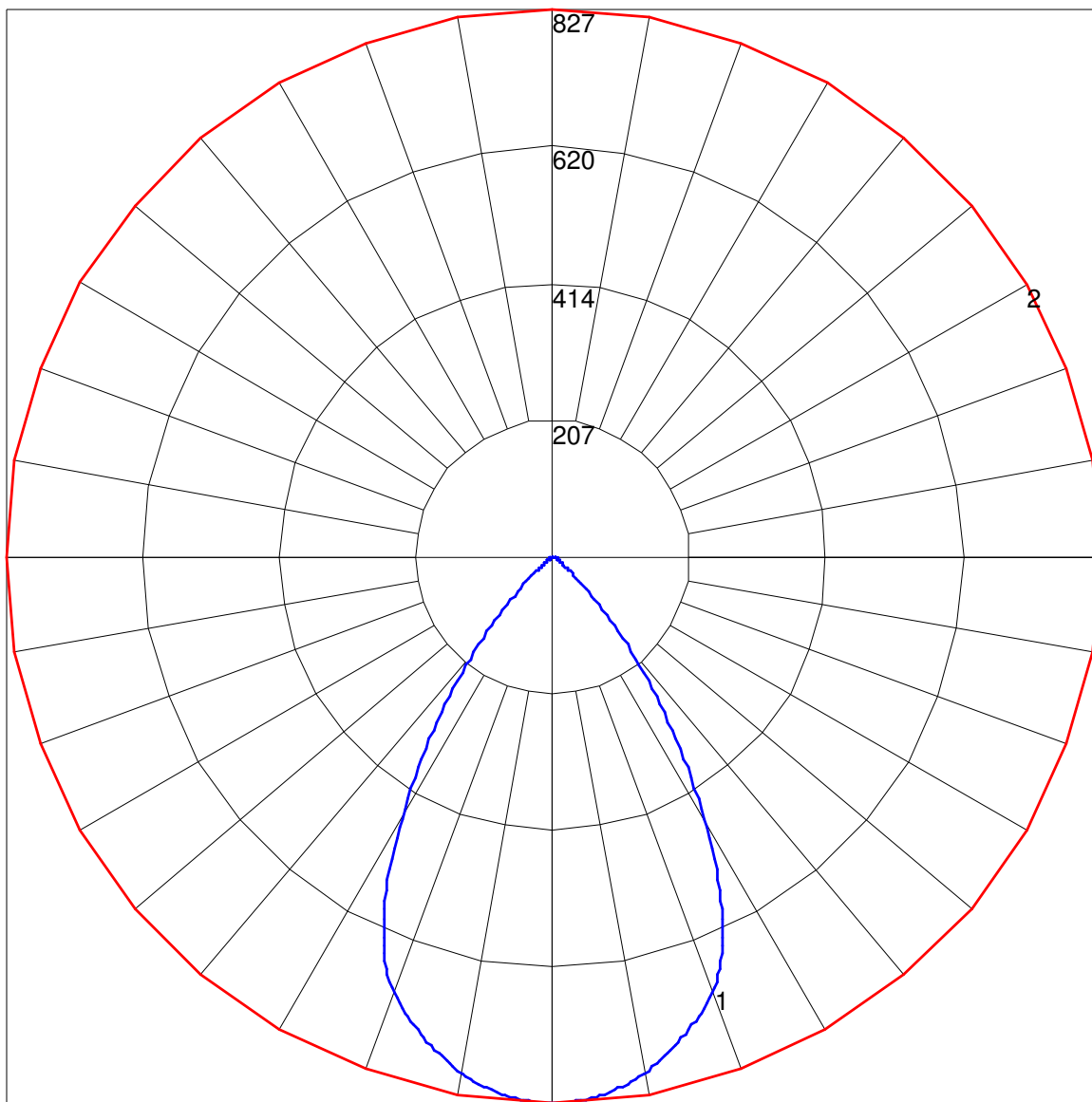
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**UGR TABLE - CORRECTED**

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	1.1	2.1	1.5	2.4	2.7	1.1	2.1	1.5	2.4	2.7
	3H	1.2	2.1	1.6	2.5	2.8	1.2	2.1	1.6	2.5	2.8
	4H	1.2	2.0	1.6	2.4	2.8	1.2	2.0	1.6	2.4	2.8
	6H	1.2	1.9	1.6	2.3	2.7	1.2	1.9	1.6	2.3	2.7
	8H	1.1	1.8	1.6	2.2	2.6	1.1	1.8	1.6	2.2	2.6
	12H	1.1	1.8	1.5	2.1	2.6	1.1	1.8	1.5	2.1	2.6
4H	2H	1.0	1.8	1.4	2.2	2.6	1.0	1.8	1.4	2.2	2.6
	3H	1.3	1.9	1.7	2.3	2.7	1.3	1.9	1.7	2.3	2.7
	4H	1.2	1.8	1.7	2.3	2.7	1.2	1.8	1.7	2.3	2.7
	6H	1.2	1.7	1.7	2.2	2.7	1.2	1.7	1.7	2.2	2.7
	8H	1.2	1.7	1.7	2.1	2.6	1.2	1.7	1.7	2.1	2.6
	12H	1.2	1.5	1.6	2.0	2.5	1.2	1.5	1.6	2.0	2.5
8H	4H	1.1	1.6	1.6	2.1	2.5	1.1	1.6	1.6	2.1	2.5
	6H	1.1	1.5	1.7	2.0	2.5	1.1	1.5	1.7	2.0	2.5
	8H	1.1	1.4	1.6	2.0	2.5	1.1	1.4	1.6	2.0	2.5
	12H	1.1	1.4	1.6	1.9	2.4	1.1	1.4	1.6	1.9	2.4
12H	4H	1.1	1.5	1.6	2.0	2.4	1.1	1.5	1.6	2.0	2.4
	6H	1.1	1.4	1.6	1.9	2.4	1.1	1.4	1.6	1.9	2.4
	8H	1.1	1.4	1.6	1.9	2.4	1.1	1.4	1.6	1.9	2.4

Maximum UGR = 2.8

POLAR GRAPH



Maximum Candela = 827.09 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.)