



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_3500K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 15248898.01

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 2024-04-30

[TESTDATE] 4/15/2024

[MANUFAC] H.E. WILLIAMS, INC.

[MORE] CARTHAGE, MO. 64836

[LUMCAT] 6FDR-LS-8CS-CS-DIM-UNV\_18W\_3500K

[LUMINAIRE] 6 INCH ROUND, RECESSED LED DOWNLIGHT

[MORE] W/SEMI-SPECULAR TRIM. WATTAGE & COLOR SELECTABLE

[LAMP] LED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2030
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	17.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.08
Spacing Criterion (90-270)	1.08
Spacing Criterion (Diagonal)	1.02
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 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	23073	23073	23073
55	3243	3243	3243
65	358	358	358
75	146	146	146
85	62	62	62

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CANDELA TABULATION

	<u>0</u>
0.0	1678.502
0.5	1678.502
1.0	1679.489
1.5	1680.477
2.0	1681.464
2.5	1682.451
3.0	1683.439
3.5	1684.426
4.0	1686.401
4.5	1687.388
5.0	1689.363
5.5	1690.350
6.0	1692.325
6.5	1694.300
7.0	1696.274
7.5	1698.249
8.0	1699.236
8.5	1701.211
9.0	1702.198
9.5	1702.198
10.0	1701.211
10.5	1700.224
11.0	1698.249
11.5	1696.274
12.0	1692.325
12.5	1688.376
13.0	1684.426
13.5	1679.489
14.0	1673.565
14.5	1667.641
15.0	1660.730
15.5	1653.818
16.0	1645.919
16.5	1637.033
17.0	1627.160
17.5	1617.286
18.0	1607.412
18.5	1595.564
19.0	1583.716
19.5	1570.880
20.0	1557.057
20.5	1543.234
21.0	1528.424
21.5	1513.614
22.0	1497.816
22.5	1481.031
23.0	1462.271
23.5	1444.499
24.0	1423.765
24.5	1402.043
25.0	1379.334
25.5	1355.637
26.0	1331.941
26.5	1306.269

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CANDELA TABULATION - (Cont.)

27.0	1279.611
27.5	1251.965
28.0	1223.332
28.5	1194.698
29.0	1165.078
29.5	1134.470
30.0	1103.862
30.5	1072.267
31.0	1040.671
31.5	1009.076
32.0	976.987
32.5	945.194
33.0	913.401
33.5	881.608
34.0	850.408
34.5	819.504
35.0	789.093
35.5	762.435
36.0	737.159
36.5	707.637
37.0	678.016
37.5	648.988
38.0	620.750
38.5	593.104
39.0	565.853
39.5	539.194
40.0	513.029
40.5	487.852
41.0	463.661
41.5	439.866
42.0	416.861
42.5	394.843
43.0	373.516
43.5	353.177
44.0	333.824
44.5	315.460
45.0	297.885
45.5	280.902
46.0	264.710
46.5	249.208
47.0	234.299
47.5	219.785
48.0	205.666
48.5	191.744
49.0	178.119
49.5	164.789
50.0	151.658
50.5	138.526
51.0	125.493
51.5	112.065
52.0	99.032
52.5	86.295
53.0	73.657
53.5	62.105
54.0	51.441
54.5	42.061

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CANDELA TABULATION - (Cont.)

55.0	33.965
55.5	27.350
56.0	22.018
56.5	17.970
57.0	14.810
57.5	12.342
58.0	10.565
58.5	9.084
59.0	7.998
59.5	7.109
60.0	6.319
60.5	5.727
61.0	5.134
61.5	4.739
62.0	4.344
62.5	3.949
63.0	3.653
63.5	3.456
64.0	3.160
64.5	2.962
65.0	2.765
65.5	2.567
66.0	2.370
66.5	2.271
67.0	2.073
67.5	1.975
68.0	1.777
68.5	1.679
69.0	1.580
69.5	1.481
70.0	1.382
70.5	1.284
71.0	1.185
71.5	1.086
72.0	0.987
72.5	0.987
73.0	0.889
73.5	0.790
74.0	0.790
74.5	0.691
75.0	0.691
75.5	0.592
76.0	0.592
76.5	0.494
77.0	0.494
77.5	0.395
78.0	0.395
78.5	0.395
79.0	0.296
79.5	0.296
80.0	0.296
80.5	0.296
81.0	0.197
81.5	0.197
82.0	0.197
82.5	0.197

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CANDELA TABULATION - (Cont.)

83.0	0.197
83.5	0.197
84.0	0.099
84.5	0.099
85.0	0.099
85.5	0.099
86.0	0.099
86.5	0.099
87.0	0.099
87.5	0.099
88.0	0.099
88.5	0.000
89.0	0.000
89.5	0.000
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_3500K\_.IES****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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_3500K\_.IES****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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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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_3500K\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	627.42	N.A.	30.90
0-30	1251.51	N.A.	61.70
0-40	1745.09	N.A.	86.00
0-60	2026.08	N.A.	99.80
0-80	2029.85	N.A.	100.00
0-90	2029.99	N.A.	100.00
10-90	1868.23	N.A.	92.00
20-40	1117.67	N.A.	55.10
20-50	1353.69	N.A.	66.70
40-70	284.02	N.A.	14.00
60-80	3.77	N.A.	0.20
70-80	0.74	N.A.	0.00
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	2029.99	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	161.76
10-20	465.66
20-30	624.09
30-40	493.58
40-50	236.01
50-60	44.98
60-70	3.02
70-80	0.74
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	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93
2	107	102	98	94	105	100	96	93	97	94	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	78
4	95	87	81	77	94	86	81	76	84	79	75	82	78	75	80	77	74	72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53
9	72	62	55	51	71	61	55	51	60	55	51	59	54	51	58	54	50	49
10	68	58	52	48	67	57	52	48	57	51	47	56	51	47	55	50	47	46

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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

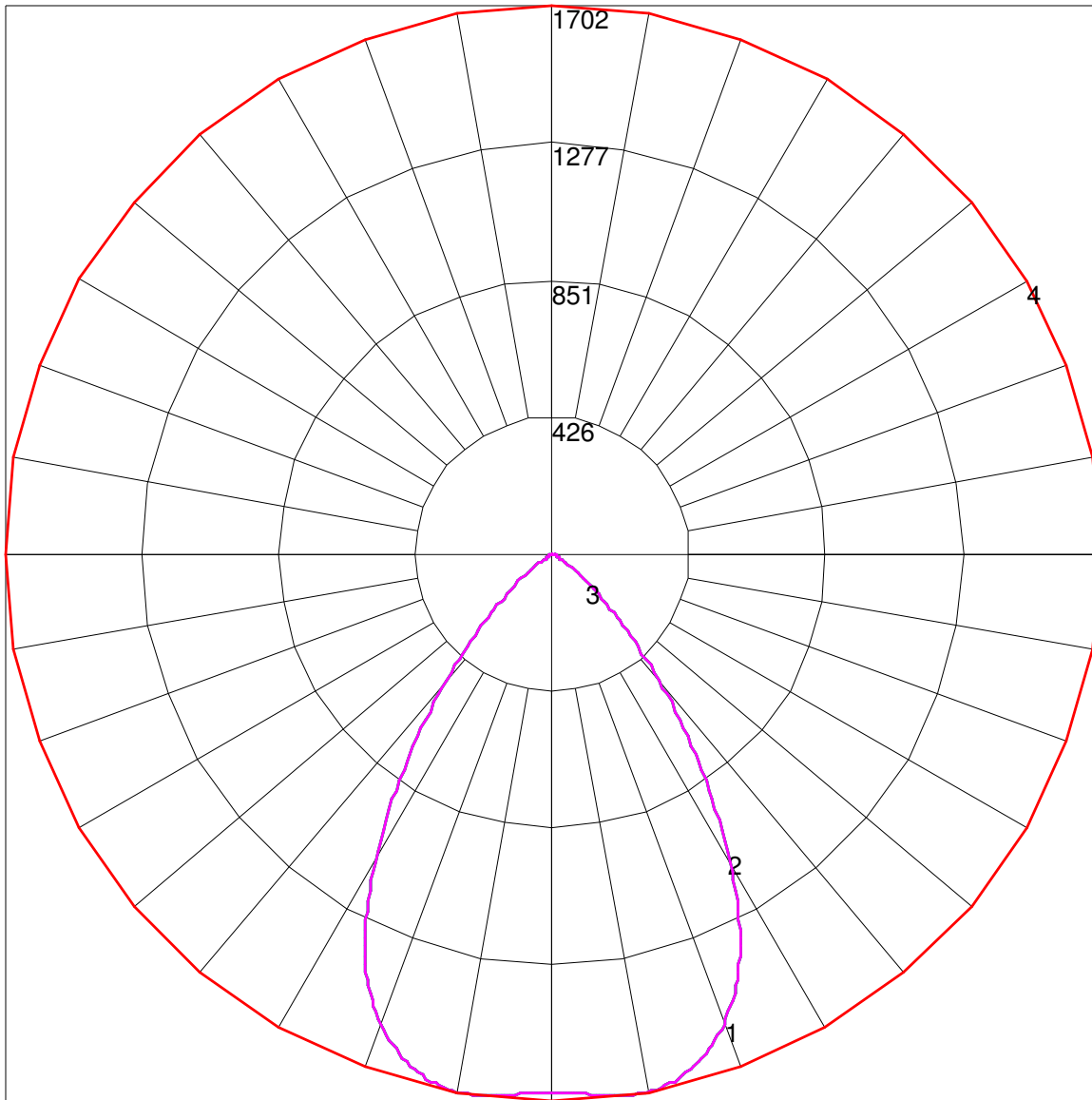
X=2H	Y=2H	2.5	2.5	2.5	2.5	2.7	2.5	2.5	2.5	2.5	2.7
	3H	2.5	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.6
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

### UGR Viewed Endwise

4H	2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
12H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Maximum UGR = 2.7

POLAR GRAPH



Maximum Candela = 1702.198 Located At Horizontal Angle = 0, Vertical Angle = 9  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Vertical Plane Through Horizontal Angles (5 - 185)  
# 3 - Vertical Plane Through Horizontal Angles (10 - 190)  
# 4 - Horizontal Cone Through Vertical Angle (9) (Through Max. Cd.)