



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_4000K\_.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\_4000K

[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	1951
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	108
Total Luminaire Watts	18.1
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	22175	22175	22175
55	3117	3117	3117
65	344	344	344
75	141	141	141
85	60	60	60

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CANDELA TABULATION

	<u>0</u>
0.0	1613.181
0.5	1613.181
1.0	1614.130
1.5	1615.079
2.0	1616.028
2.5	1616.977
3.0	1617.926
3.5	1618.875
4.0	1620.772
4.5	1621.721
5.0	1623.619
5.5	1624.568
6.0	1626.466
6.5	1628.364
7.0	1630.262
7.5	1632.160
8.0	1633.109
8.5	1635.006
9.0	1635.955
9.5	1635.955
10.0	1635.006
10.5	1634.058
11.0	1632.160
11.5	1630.262
12.0	1626.466
12.5	1622.670
13.0	1618.875
13.5	1614.130
14.0	1608.436
14.5	1602.743
15.0	1596.100
15.5	1589.458
16.0	1581.866
16.5	1573.326
17.0	1563.837
17.5	1554.347
18.0	1544.858
18.5	1533.471
19.0	1522.084
19.5	1509.748
20.0	1496.463
20.5	1483.178
21.0	1468.944
21.5	1454.710
22.0	1439.527
22.5	1423.395
23.0	1405.365
23.5	1388.285
24.0	1368.357
24.5	1347.481
25.0	1325.655
25.5	1302.881
26.0	1280.107
26.5	1255.434

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CANDELA TABULATION - (Cont.)

27.0	1229.813
27.5	1203.243
28.0	1175.724
28.5	1148.205
29.0	1119.737
29.5	1090.321
30.0	1060.904
30.5	1030.538
31.0	1000.172
31.5	969.806
32.0	938.966
32.5	908.411
33.0	877.855
33.5	847.300
34.0	817.313
34.5	787.612
35.0	758.385
35.5	732.764
36.0	708.471
36.5	680.098
37.0	651.630
37.5	623.732
38.0	596.592
38.5	570.022
39.0	543.832
39.5	518.211
40.0	493.064
40.5	468.866
41.0	445.618
41.5	422.748
42.0	400.638
42.5	379.477
43.0	358.980
43.5	339.432
44.0	320.833
44.5	303.183
45.0	286.292
45.5	269.971
46.0	254.408
46.5	239.510
47.0	225.181
47.5	211.232
48.0	197.662
48.5	184.282
49.0	171.187
49.5	158.376
50.0	145.756
50.5	133.135
51.0	120.609
51.5	107.704
52.0	95.178
52.5	82.936
53.0	70.790
53.5	59.688
54.0	49.439
54.5	40.424

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CANDELA TABULATION - (Cont.)

55.0	32.643
55.5	26.285
56.0	21.161
56.5	17.271
57.0	14.234
57.5	11.862
58.0	10.154
58.5	8.730
59.0	7.686
59.5	6.832
60.0	6.073
60.5	5.504
61.0	4.934
61.5	4.555
62.0	4.175
62.5	3.796
63.0	3.511
63.5	3.321
64.0	3.037
64.5	2.847
65.0	2.657
65.5	2.467
66.0	2.277
66.5	2.183
67.0	1.993
67.5	1.898
68.0	1.708
68.5	1.613
69.0	1.518
69.5	1.423
70.0	1.329
70.5	1.234
71.0	1.139
71.5	1.044
72.0	0.949
72.5	0.949
73.0	0.854
73.5	0.759
74.0	0.759
74.5	0.664
75.0	0.664
75.5	0.569
76.0	0.569
76.5	0.474
77.0	0.474
77.5	0.380
78.0	0.380
78.5	0.380
79.0	0.285
79.5	0.285
80.0	0.285
80.5	0.285
81.0	0.190
81.5	0.190
82.0	0.190
82.5	0.190

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CANDELA TABULATION - (Cont.)

83.0	0.190
83.5	0.190
84.0	0.095
84.5	0.095
85.0	0.095
85.5	0.095
86.0	0.095
86.5	0.095
87.0	0.095
87.5	0.095
88.0	0.095
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  
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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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_4000K\_.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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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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6FDR-LS-8CS-CS-DIM-UNV\_18W\_4000K\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	603.00	N.A.	30.90
0-30	1202.8	N.A.	61.70
0-40	1677.18	N.A.	86.00
0-60	1947.24	N.A.	99.80
0-80	1950.86	N.A.	100.00
0-90	1950.99	N.A.	100.00
10-90	1795.52	N.A.	92.00
20-40	1074.18	N.A.	55.10
20-50	1301.01	N.A.	66.70
40-70	272.96	N.A.	14.00
60-80	3.62	N.A.	0.20
70-80	0.72	N.A.	0.00
80-90	0.13	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	1950.99	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	155.47
10-20	447.53
20-30	599.80
30-40	474.38
40-50	226.83
50-60	43.23
60-70	2.90
70-80	0.72
80-90	0.13
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

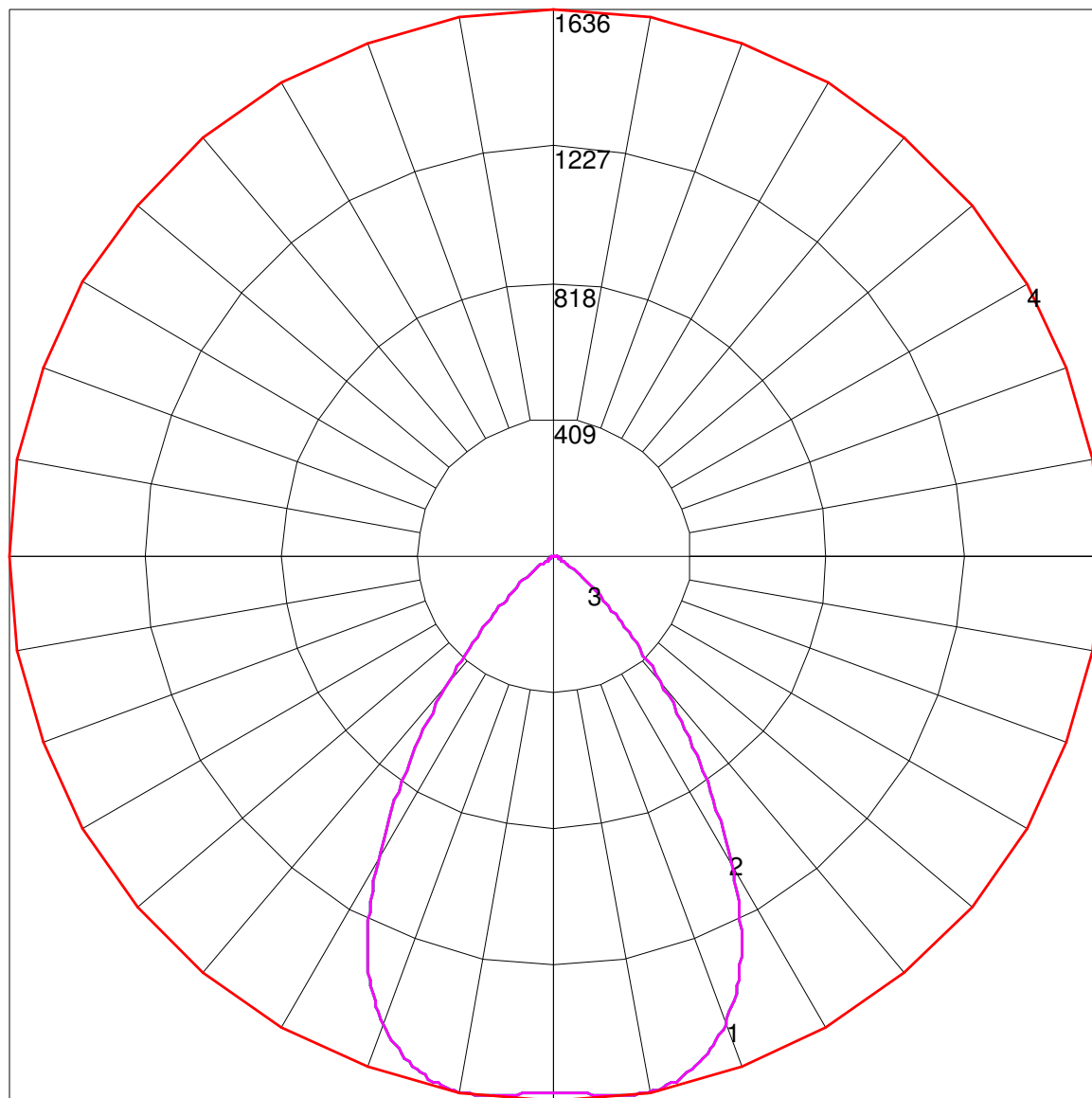
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	2.3	2.3	2.3	2.3	2.5	2.3	2.3	2.3	2.3	2.5
	3H	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.4
	4H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	6H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	8H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	12H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
4H	2H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	3H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	4H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	6H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	8H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	12H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
8H	4H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	6H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	8H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	12H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
12H	4H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	6H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	8H	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3

Maximum UGR = 2.5

POLAR GRAPH



Maximum Candela = 1635.955 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.)