



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] GEN FROM 15248898.02  
[TESTLAB] UL Verification Services Inc.  
[ISSUE DATE] 2024-04-30  
[TEST DATE] 4/15/2024  
[MANUFACT] H.E. WILLIAMS, INC.  
[MORE] CARTHAGE, MO. 64836  
[LUMCAT] 6FDR-LS-8CS-WH-DIM-UNV\_18W\_3500K  
[LUMINAIRE] 6 INCH ROUND, RECESSED LED DOWNLIGHT  
[MORE] W/WHITE PAINTED TRIM. WATTAGE & COLOR SELECTABLE  
[LAMP] LED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1684
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	96
Total Luminaire Watts	17.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.02
Spacing Criterion (90-270)	1.02
Spacing Criterion (Diagonal)	1.00
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	20349	20349	20349
55	16013	16013	16013
65	12701	12701	12701
75	10148	10148	10148
85	8020	8020	8020

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CANDELA TABULATION

	<u>0</u>
0.0	1196.448
0.5	1196.448
1.0	1196.448
1.5	1195.451
2.0	1194.454
2.5	1193.456
3.0	1192.459
3.5	1190.465
4.0	1188.471
4.5	1186.477
5.0	1184.483
5.5	1182.489
6.0	1179.498
6.5	1176.507
7.0	1172.519
7.5	1169.528
8.0	1165.539
8.5	1162.548
9.0	1158.560
9.5	1155.569
10.0	1151.581
10.5	1147.593
11.0	1142.607
11.5	1138.619
12.0	1133.634
12.5	1128.649
13.0	1122.667
13.5	1117.681
14.0	1111.699
14.5	1105.717
15.0	1099.735
15.5	1092.755
16.0	1086.773
16.5	1079.794
17.0	1072.815
17.5	1064.838
18.0	1057.859
18.5	1049.883
19.0	1040.909
19.5	1032.933
20.0	1023.960
20.5	1015.983
21.0	1007.010
21.5	997.040
22.0	987.767
22.5	977.597
23.0	966.530
23.5	954.566
24.0	941.604
24.5	927.347
25.0	911.992
25.5	895.441
26.0	878.193
26.5	860.545

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CANDELA TABULATION - (Cont.)

27.0	842.000
27.5	822.857
28.0	803.215
28.5	783.075
29.0	762.735
29.5	742.495
30.0	723.851
30.5	704.708
31.0	684.368
31.5	663.729
32.0	643.589
32.5	623.848
33.0	604.405
33.5	585.063
34.0	566.019
34.5	547.175
35.0	528.531
35.5	510.484
36.0	492.936
36.5	475.389
37.0	458.040
37.5	441.090
38.0	424.539
38.5	408.587
39.0	393.432
39.5	378.975
40.0	364.917
40.5	351.556
41.0	338.993
41.5	327.029
42.0	315.762
42.5	305.493
43.0	295.722
43.5	286.649
44.0	278.074
44.5	270.198
45.0	262.720
45.5	256.040
46.0	249.758
46.5	243.976
47.0	238.392
47.5	233.108
48.0	228.023
48.5	223.237
49.0	218.551
49.5	213.965
50.0	209.478
50.5	204.991
51.0	200.505
51.5	196.118
52.0	192.030
52.5	188.042
53.0	184.054
53.5	179.966
54.0	175.878
54.5	171.790

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CANDELA TABULATION - (Cont.)

55.0	167.702
55.5	163.814
56.0	159.925
56.5	156.037
57.0	152.148
57.5	148.360
58.0	144.571
58.5	140.882
59.0	137.392
59.5	133.902
60.0	130.313
60.5	126.823
61.0	123.434
61.5	120.044
62.0	116.753
62.5	113.563
63.0	110.273
63.5	107.182
64.0	103.991
64.5	101.000
65.0	98.009
65.5	95.118
66.0	92.226
66.5	89.335
67.0	86.543
67.5	83.751
68.0	81.059
68.5	78.467
69.0	75.875
69.5	73.382
70.0	70.790
70.5	68.397
71.0	66.004
71.5	63.611
72.0	61.318
72.5	59.025
73.0	56.732
73.5	54.438
74.0	52.245
74.5	50.051
75.0	47.958
75.5	45.864
76.0	43.770
76.5	41.776
77.0	39.782
77.5	37.888
78.0	35.993
78.5	34.099
79.0	32.204
79.5	30.410
80.0	28.615
80.5	26.920
81.0	25.125
81.5	23.430
82.0	21.835
82.5	20.240

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CANDELA TABULATION - (Cont.)

83.0	18.645
83.5	17.149
84.0	15.654
84.5	14.158
85.0	12.762
85.5	11.267
86.0	9.970
86.5	8.575
87.0	7.278
87.5	5.982
88.0	4.686
88.5	3.390
89.0	2.094
89.5	0.798
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-WH-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-WH-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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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-WH-DIM-UNV\_18W\_3500K\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	420.63	N.A.	25.00
0-30	831.70	N.A.	49.40
0-40	1162.4	N.A.	69.00
0-60	1521.12	N.A.	90.30
0-80	1670.06	N.A.	99.10
0-90	1684.44	N.A.	100.00
10-90	1572.46	N.A.	93.40
20-40	741.77	N.A.	44.00
20-50	950.13	N.A.	56.40
40-70	456.45	N.A.	27.10
60-80	148.94	N.A.	8.80
70-80	51.20	N.A.	3.00
80-90	14.38	N.A.	0.90
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	1684.44	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	111.97
10-20	308.66
20-30	411.07
30-40	330.70
40-50	208.36
50-60	150.36
60-70	97.74
70-80	51.20
80-90	14.38
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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	97	88	82	76	94	87	81	76	84	79	74	81	77	73	79	75	72	70
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63
5	84	74	66	61	82	73	66	61	71	65	60	69	64	59	67	62	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	61	54	50	59	54	49	58	53	49	47
8	70	58	51	46	68	58	51	46	57	50	46	55	50	46	54	49	45	44
9	66	54	47	43	65	54	47	42	53	47	42	52	46	42	51	46	42	40
10	62	51	44	39	61	50	44	39	50	43	39	49	43	39	48	43	39	37

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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

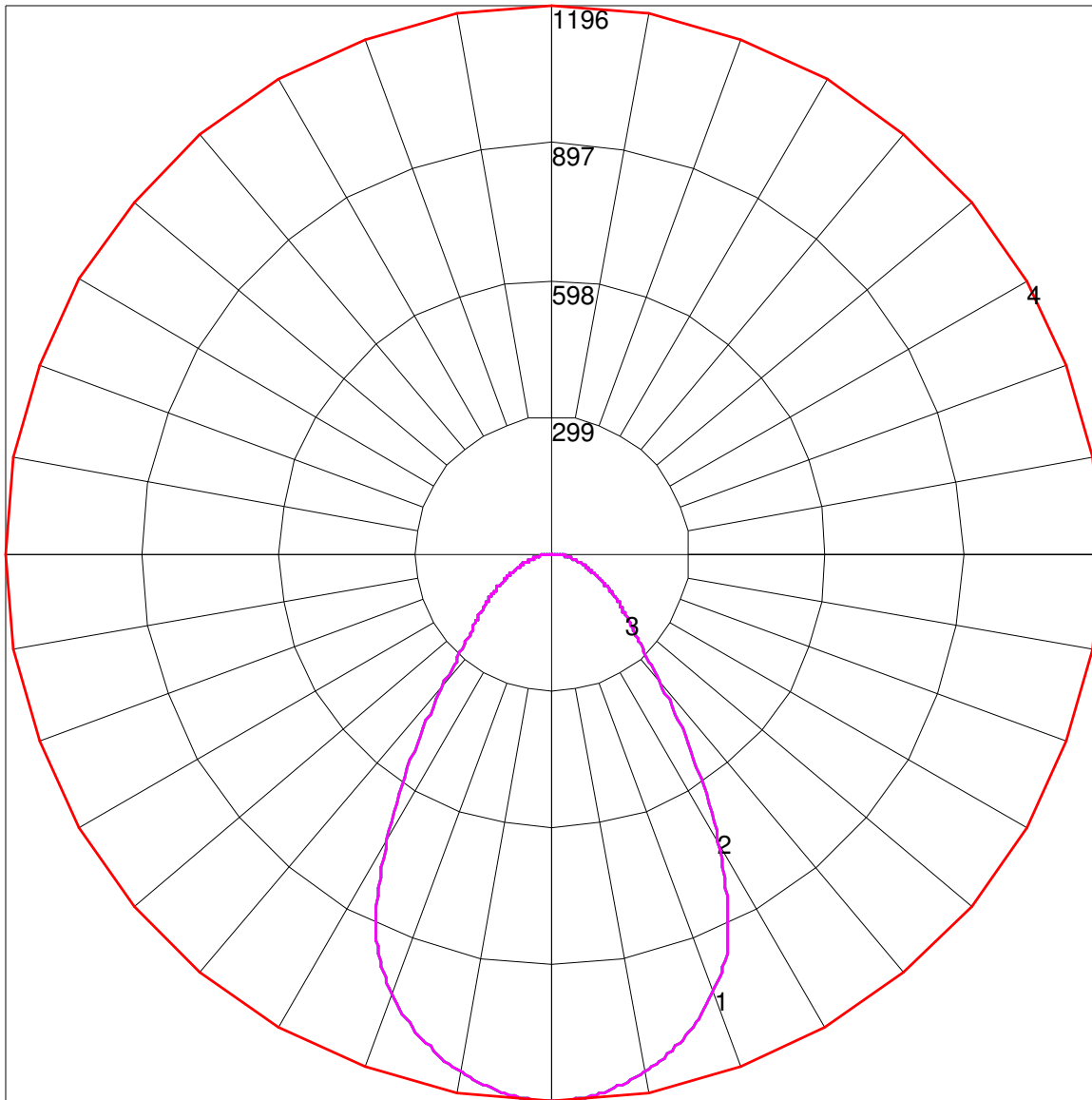
X=2H	Y=2H	18.9	20.2	19.3	20.6	20.9	18.9	20.2	19.3	20.6	20.9
	3H	20.3	21.5	20.7	21.8	22.2	20.3	21.5	20.7	21.8	22.2
	4H	20.8	21.9	21.2	22.2	22.6	20.8	21.9	21.2	22.2	22.6
	6H	21.1	22.1	21.5	22.5	22.9	21.1	22.1	21.5	22.5	22.9
	8H	21.2	22.2	21.7	22.6	23.0	21.2	22.2	21.7	22.6	23.0
	12H	21.3	22.2	21.7	22.6	23.0	21.3	22.2	21.7	22.6	23.0

### UGR Viewed Endwise

4H	2H	19.4	20.5	19.8	20.8	21.2	19.4	20.5	19.8	20.8	21.2
	3H	20.9	21.8	21.4	22.3	22.7	20.9	21.8	21.4	22.3	22.7
	4H	21.5	22.4	22.0	22.8	23.2	21.5	22.4	22.0	22.8	23.2
	6H	22.0	22.7	22.5	23.2	23.6	22.0	22.7	22.5	23.2	23.6
	8H	22.2	22.8	22.6	23.3	23.7	22.2	22.8	22.6	23.3	23.7
	12H	22.3	22.9	22.8	23.3	23.8	22.3	22.9	22.8	23.3	23.8
8H	4H	21.7	22.4	22.2	22.8	23.3	21.7	22.4	22.2	22.8	23.3
	6H	22.3	22.9	22.8	23.4	23.8	22.3	22.9	22.8	23.4	23.8
	8H	22.5	23.0	23.1	23.5	24.0	22.5	23.0	23.1	23.5	24.0
	12H	22.7	23.2	23.2	23.7	24.2	22.7	23.2	23.2	23.7	24.2
12H	4H	21.7	22.3	22.2	22.8	23.3	21.7	22.3	22.2	22.8	23.3
	6H	22.4	22.8	22.9	23.3	23.9	22.4	22.8	22.9	23.3	23.9
	8H	22.6	23.1	23.1	23.5	24.1	22.6	23.1	23.1	23.5	24.1

Maximum UGR = 24.2

POLAR GRAPH



Maximum Candela = 1196.448 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 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 (0) (Through Max. Cd.)