



IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 6FDR-LS-8CS-WH-DIM-UNV\_18W\_4000K\_.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  
[MANUFACTURER] H.E. WILLIAMS, INC.  
[MORE] CARTHAGE, MO. 64836  
[LUMEN CATEGORY] 6FDR-LS-8CS-WH-DIM-UNV\_18W\_4000K  
[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	1618
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	18.1
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	19551	19551	19551
55	15386	15386	15386
65	12204	12204	12204
75	9751	9751	9751
85	7705	7705	7705

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## CANDELA TABULATION

	<u>0</u>
0.0	1149.556
0.5	1149.556
1.0	1149.556
1.5	1148.598
2.0	1147.640
2.5	1146.682
3.0	1145.724
3.5	1143.808
4.0	1141.892
4.5	1139.976
5.0	1138.060
5.5	1136.144
6.0	1133.271
6.5	1130.397
7.0	1126.565
7.5	1123.691
8.0	1119.859
8.5	1116.985
9.0	1113.153
9.5	1110.279
10.0	1106.448
10.5	1102.616
11.0	1097.826
11.5	1093.994
12.0	1089.204
12.5	1084.414
13.0	1078.667
13.5	1073.877
14.0	1068.129
14.5	1062.381
15.0	1056.634
15.5	1049.928
16.0	1044.180
16.5	1037.474
17.0	1030.768
17.5	1023.105
18.0	1016.399
18.5	1008.735
19.0	1000.114
19.5	992.450
20.0	983.828
20.5	976.165
21.0	967.543
21.5	957.963
22.0	949.054
22.5	939.283
23.0	928.650
23.5	917.154
24.0	904.701
24.5	891.002
25.0	876.249
25.5	860.347
26.0	843.774
26.5	826.818

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CANDELA TABULATION - (Cont.)

27.0	809.000
27.5	790.607
28.0	771.735
28.5	752.384
29.0	732.842
29.5	713.395
30.0	695.481
30.5	677.088
31.0	657.546
31.5	637.716
32.0	618.365
32.5	599.398
33.0	580.717
33.5	562.133
34.0	543.836
34.5	525.730
35.0	507.816
35.5	490.477
36.0	473.617
36.5	456.757
37.0	440.088
37.5	423.803
38.0	407.901
38.5	392.573
39.0	378.012
39.5	364.122
40.0	350.615
40.5	337.778
41.0	325.708
41.5	314.212
42.0	303.387
42.5	293.520
43.0	284.132
43.5	275.414
44.0	267.176
44.5	259.608
45.0	252.423
45.5	246.005
46.0	239.970
46.5	234.414
47.0	229.049
47.5	223.972
48.0	219.086
48.5	214.488
49.0	209.986
49.5	205.579
50.0	201.268
50.5	196.957
51.0	192.646
51.5	188.431
52.0	184.504
52.5	180.672
53.0	176.840
53.5	172.912
54.0	168.985
54.5	165.057

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CANDELA TABULATION - (Cont.)

55.0	161.129
55.5	157.393
56.0	153.657
56.5	149.921
57.0	146.185
57.5	142.545
58.0	138.905
58.5	135.360
59.0	132.007
59.5	128.654
60.0	125.206
60.5	121.853
61.0	118.596
61.5	115.339
62.0	112.178
62.5	109.112
63.0	105.951
63.5	102.981
64.0	99.916
64.5	97.042
65.0	94.168
65.5	91.390
66.0	88.612
66.5	85.834
67.0	83.151
67.5	80.469
68.0	77.882
68.5	75.392
69.0	72.901
69.5	70.506
70.0	68.015
70.5	65.716
71.0	63.417
71.5	61.118
72.0	58.915
72.5	56.711
73.0	54.508
73.5	52.305
74.0	50.197
74.5	48.090
75.0	46.078
75.5	44.066
76.0	42.055
76.5	40.139
77.0	38.223
77.5	36.403
78.0	34.582
78.5	32.762
79.0	30.942
79.5	29.218
80.0	27.494
80.5	25.865
81.0	24.141
81.5	22.512
82.0	20.979
82.5	19.447

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CANDELA TABULATION - (Cont.)

83.0	17.914
83.5	16.477
84.0	15.040
84.5	13.603
85.0	12.262
85.5	10.825
86.0	9.580
86.5	8.238
87.0	6.993
87.5	5.748
88.0	4.502
88.5	3.257
89.0	2.012
89.5	0.766
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\_4000K\_.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\_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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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\_4000K\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	404.15	N.A.	25.00
0-30	799.10	N.A.	49.40
0-40	1116.85	N.A.	69.00
0-60	1461.5	N.A.	90.30
0-80	1604.61	N.A.	99.10
0-90	1618.42	N.A.	100.00
10-90	1510.83	N.A.	93.40
20-40	712.70	N.A.	44.00
20-50	912.89	N.A.	56.40
40-70	438.57	N.A.	27.10
60-80	143.10	N.A.	8.80
70-80	49.19	N.A.	3.00
80-90	13.81	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	1618.42	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	107.58
10-20	296.56
20-30	394.96
30-40	317.74
40-50	200.19
50-60	144.47
60-70	93.91
70-80	49.19
80-90	13.81
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

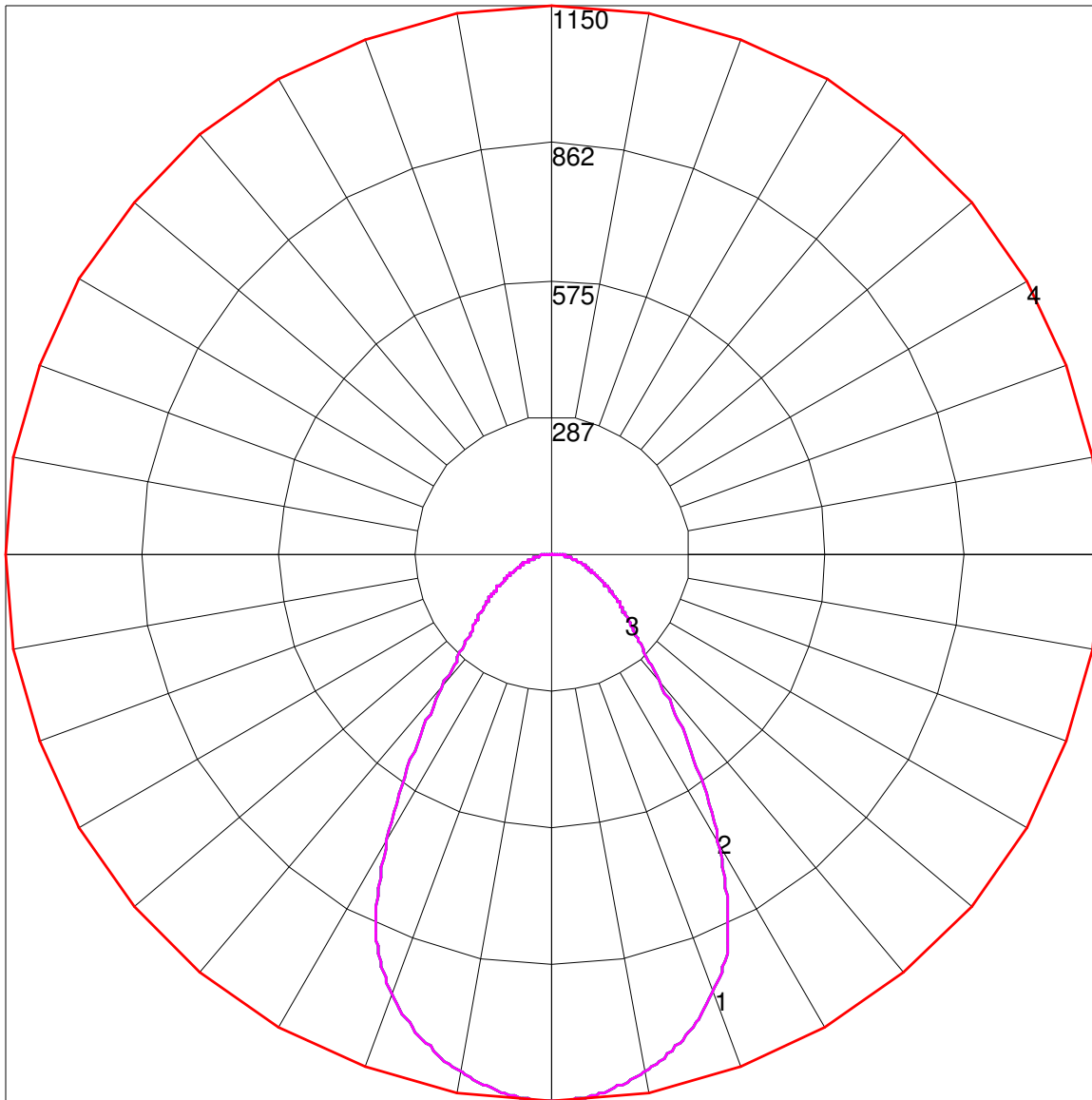
X=2H	Y=2H	18.8	20.1	19.2	20.5	20.8	18.8	20.1	19.2	20.5	20.8
	3H	20.2	21.4	20.6	21.7	22.1	20.2	21.4	20.6	21.7	22.1
	4H	20.7	21.8	21.1	22.1	22.5	20.7	21.8	21.1	22.1	22.5
	6H	21.0	22.0	21.4	22.4	22.8	21.0	22.0	21.4	22.4	22.8
	8H	21.1	22.1	21.6	22.5	22.9	21.1	22.1	21.6	22.5	22.9
	12H	21.2	22.1	21.6	22.5	22.9	21.2	22.1	21.6	22.5	22.9

### UGR Viewed Endwise

4H	2H	19.3	20.4	19.7	20.7	21.1	19.3	20.4	19.7	20.7	21.1
	3H	20.8	21.7	21.3	22.2	22.6	20.8	21.7	21.3	22.2	22.6
	4H	21.4	22.3	21.9	22.7	23.1	21.4	22.3	21.9	22.7	23.1
	6H	21.9	22.6	22.4	23.1	23.5	21.9	22.6	22.4	23.1	23.5
	8H	22.1	22.7	22.5	23.2	23.6	22.1	22.7	22.5	23.2	23.6
	12H	22.2	22.8	22.6	23.2	23.7	22.2	22.8	22.6	23.2	23.7
8H	4H	21.6	22.3	22.1	22.7	23.2	21.6	22.3	22.1	22.7	23.2
	6H	22.2	22.8	22.7	23.3	23.7	22.2	22.8	22.7	23.3	23.7
	8H	22.4	22.9	23.0	23.4	23.9	22.4	22.9	23.0	23.4	23.9
	12H	22.6	23.1	23.1	23.5	24.1	22.6	23.1	23.1	23.5	24.1
12H	4H	21.6	22.2	22.1	22.7	23.2	21.6	22.2	22.1	22.7	23.2
	6H	22.3	22.7	22.8	23.2	23.8	22.3	22.7	22.8	23.2	23.8
	8H	22.5	23.0	23.0	23.4	24.0	22.5	23.0	23.0	23.4	24.0

Maximum UGR = 24.1

POLAR GRAPH



Maximum Candela = 1149.556 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.)