



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 15248898.03

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 2024-04-30

[TESTDATE] 4/15/2024

[MANUFAC] H.E. WILLIAMS, INC.

[MORE] CARTHAGE, MO. 64836

[LUMCAT] 4FDR-LS-8CS-CS-DIM-UNV_14W_4000K

[LUMINAIRE] 4 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	1472
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	13.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.12
Spacing Criterion (Diagonal)	1.08
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.33 ft (Diameter)
Luminous Width (90-270)	0.33 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	50633	50633	50633
55	16760	16760	16760
65	924	924	924
75	251	251	251
85	320	320	320

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CANDELA TABULATION

	<u>0</u>
0.0	1042.824
0.5	1042.824
1.0	1042.824
1.5	1043.576
2.0	1043.576
2.5	1044.329
3.0	1044.329
3.5	1045.082
4.0	1045.082
4.5	1045.835
5.0	1045.835
5.5	1046.588
6.0	1047.341
6.5	1048.094
7.0	1048.847
7.5	1050.353
8.0	1051.859
8.5	1052.612
9.0	1054.118
9.5	1055.624
10.0	1056.376
10.5	1057.129
11.0	1057.129
11.5	1057.882
12.0	1057.882
12.5	1057.129
13.0	1057.129
13.5	1056.376
14.0	1055.624
14.5	1054.118
15.0	1052.612
15.5	1051.106
16.0	1048.847
16.5	1045.835
17.0	1042.824
17.5	1038.306
18.0	1033.788
18.5	1027.765
19.0	1020.988
19.5	1014.212
20.0	1005.929
20.5	996.894
21.0	987.106
21.5	977.318
22.0	966.024
22.5	954.729
23.0	942.682
23.5	930.635
24.0	917.835
24.5	904.282
25.0	891.482
25.5	877.176
26.0	863.624
26.5	849.318

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_4000K_.IES****CANDELA TABULATION - (Cont.)**

27.0	835.012
27.5	819.953
28.0	804.894
28.5	790.588
29.0	775.529
29.5	760.471
30.0	745.035
30.5	729.751
31.0	714.089
31.5	698.353
32.0	682.767
32.5	667.031
33.0	651.219
33.5	635.256
34.0	619.369
34.5	603.784
35.0	589.704
35.5	575.624
36.0	561.694
36.5	546.259
37.0	530.372
37.5	514.485
38.0	498.673
38.5	482.936
39.0	467.351
39.5	451.765
40.0	436.254
40.5	420.819
41.0	405.534
41.5	390.400
42.0	375.416
42.5	360.508
43.0	345.751
43.5	331.369
44.0	317.139
44.5	303.360
45.0	289.958
45.5	276.706
46.0	263.755
46.5	251.181
47.0	239.059
47.5	227.087
48.0	215.567
48.5	204.198
49.0	193.129
49.5	182.438
50.0	171.972
50.5	161.807
51.0	152.019
51.5	142.306
52.0	132.894
52.5	123.708
53.0	114.522
53.5	105.487
54.0	96.301
54.5	87.040

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55.0	77.854
55.5	68.894
56.0	60.386
56.5	52.405
57.0	44.800
57.5	37.873
58.0	31.548
58.5	26.052
59.0	21.233
59.5	17.242
60.0	14.080
60.5	11.445
61.0	9.487
61.5	7.981
62.0	6.776
62.5	5.873
63.0	5.045
63.5	4.442
64.0	3.991
64.5	3.539
65.0	3.162
65.5	2.861
66.0	2.635
66.5	2.409
67.0	2.184
67.5	2.033
68.0	1.882
68.5	1.656
69.0	1.581
69.5	1.431
70.0	1.280
70.5	1.205
71.0	1.129
71.5	0.979
72.0	0.904
72.5	0.828
73.0	0.753
73.5	0.753
74.0	0.678
74.5	0.602
75.0	0.527
75.5	0.527
76.0	0.452
76.5	0.452
77.0	0.376
77.5	0.376
78.0	0.301
78.5	0.301
79.0	0.301
79.5	0.226
80.0	0.226
80.5	0.226
81.0	0.226
81.5	0.226
82.0	0.226
82.5	0.226

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CANDELA TABULATION - (Cont.)

83.0	0.226
83.5	0.226
84.0	0.226
84.5	0.226
85.0	0.226
85.5	0.226
86.0	0.301
86.5	0.301
87.0	0.301
87.5	0.301
88.0	0.301
88.5	0.301
89.0	0.301
89.5	0.226
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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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
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120.0	0.000
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121.0	0.000
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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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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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Zone	Lumens	%Lamp	%Fixt
0-20	395.99	N.A.	26.90
0-30	802.30	N.A.	54.50
0-40	1169.28	N.A.	79.40
0-60	1467.05	N.A.	99.60
0-80	1472.01	N.A.	100.00
0-90	1472.28	N.A.	100.00
10-90	1372.08	N.A.	93.20
20-40	773.29	N.A.	52.50
20-50	998.67	N.A.	67.80
40-70	302.07	N.A.	20.50
60-80	4.96	N.A.	0.30
70-80	0.65	N.A.	0.00
80-90	0.27	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	1472.28	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	100.19
10-20	295.80
20-30	406.30
30-40	366.99
40-50	225.37
50-60	72.39
60-70	4.30
70-80	0.65
80-90	0.27
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	107	105	110	108	105	103	103	102	100	100	98	97	96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	86	84
3	100	93	87	83	98	91	86	82	89	84	80	86	82	79	84	81	78	76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	66	72	68	65	63
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58
7	78	67	61	56	77	67	60	56	65	60	55	64	59	55	63	58	55	53
8	74	63	56	51	72	62	56	51	61	55	51	60	55	51	59	54	51	49
9	69	59	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47	45
10	66	55	48	44	65	54	48	44	53	48	44	53	47	44	52	47	43	42

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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	12.6	13.8	13.0	14.1	14.4	UGR Viewed Endwise	12.6	13.8	13.0	14.1	14.4
	3H	12.5	13.5	12.9	13.8	14.2		12.5	13.5	12.9	13.8	14.2
	4H	12.4	13.3	12.8	13.7	14.1		12.4	13.3	12.8	13.7	14.1
	6H	12.3	13.1	12.7	13.5	13.9		12.3	13.1	12.7	13.5	13.9
	8H	12.2	13.0	12.7	13.4	13.8		12.2	13.0	12.7	13.4	13.8
	12H	12.2	13.0	12.6	13.3	13.8		12.2	13.0	12.6	13.3	13.8

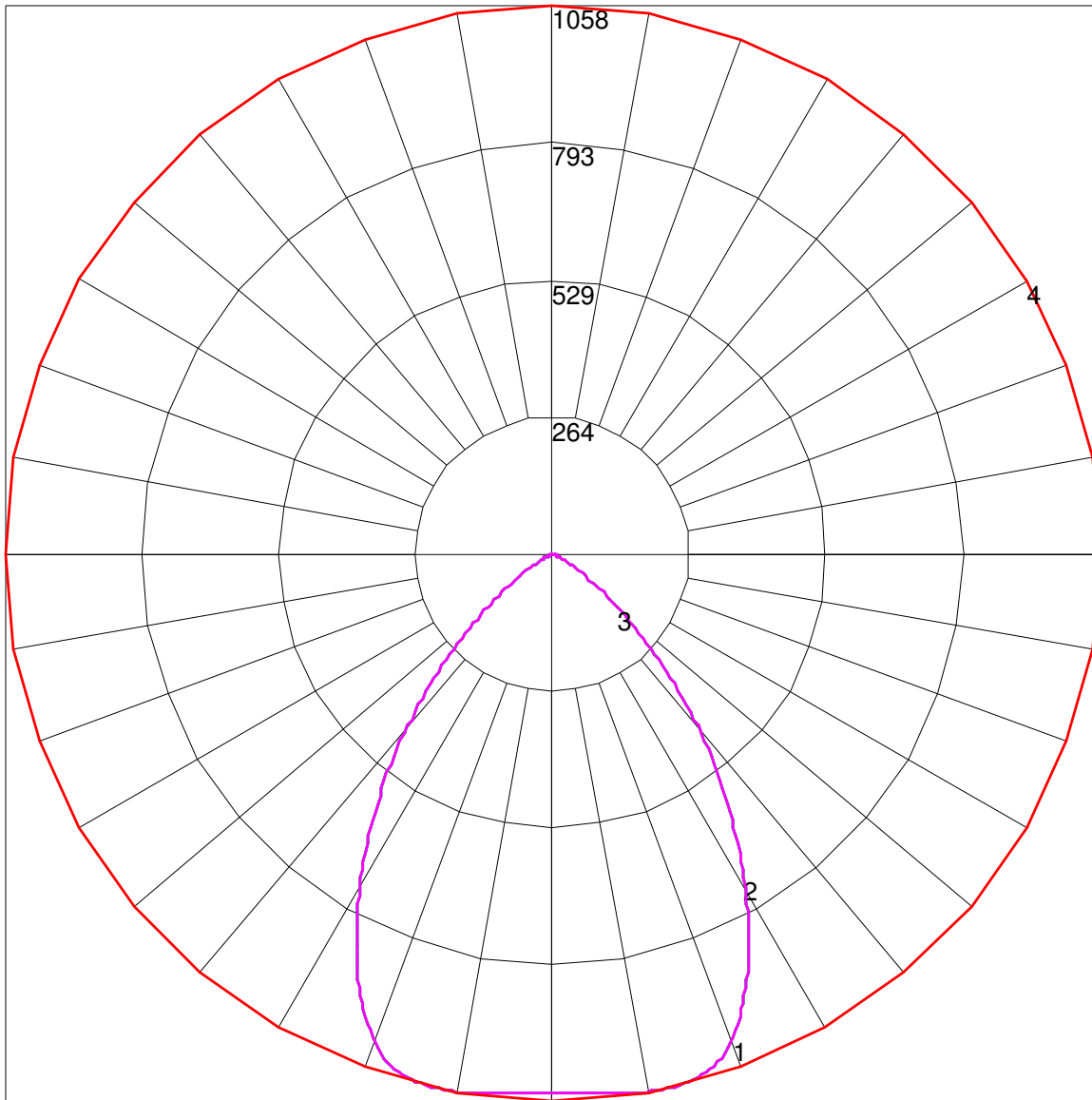
4H	2H	12.4	13.3	12.8	13.7	14.1	12.4	13.3	12.8	13.7	14.1
	3H	12.2	13.0	12.6	13.4	13.8	12.2	13.0	12.6	13.4	13.8
	4H	12.1	12.8	12.6	13.2	13.7	12.1	12.8	12.6	13.2	13.7
	6H	12.0	12.6	12.5	13.1	13.5	12.0	12.6	12.5	13.1	13.5
	8H	11.9	12.5	12.4	12.9	13.4	11.9	12.5	12.4	12.9	13.4
	12H	11.9	12.4	12.4	12.9	13.3	11.9	12.4	12.4	12.9	13.3

8H	4H	11.9	12.5	12.4	12.9	13.4	11.9	12.5	12.4	12.9	13.4
	6H	11.9	12.3	12.4	12.8	13.3	11.9	12.3	12.4	12.8	13.3
	8H	11.8	12.2	12.3	12.7	13.2	11.8	12.2	12.3	12.7	13.2
	12H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1

12H	4H	11.9	12.4	12.4	12.9	13.3	11.9	12.4	12.4	12.9	13.3
	6H	11.8	12.2	12.3	12.6	13.2	11.8	12.2	12.3	12.6	13.2
	8H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1

Maximum UGR = 14.4

POLAR GRAPH



Maximum Candela = 1057.882 Located At Horizontal Angle = 0, Vertical Angle = 11.5
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 (11.5) (Through Max. Cd.)