



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.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_3000K
[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	1443
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
Total Luminaire Watts	14
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	49636	49636	49636
55	16430	16430	16430
65	906	906	906
75	247	247	247
85	313	313	313

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES

CANDELA TABULATION

	<u>0</u>
0.0	1022.279
0.5	1022.279
1.0	1022.279
1.5	1023.017
2.0	1023.017
2.5	1023.755
3.0	1023.755
3.5	1024.493
4.0	1024.493
4.5	1025.231
5.0	1025.231
5.5	1025.969
6.0	1026.707
6.5	1027.445
7.0	1028.184
7.5	1029.660
8.0	1031.136
8.5	1031.874
9.0	1033.350
9.5	1034.827
10.0	1035.565
10.5	1036.303
11.0	1036.303
11.5	1037.041
12.0	1037.041
12.5	1036.303
13.0	1036.303
13.5	1035.565
14.0	1034.827
14.5	1033.350
15.0	1031.874
15.5	1030.398
16.0	1028.184
16.5	1025.231
17.0	1022.279
17.5	1017.850
18.0	1013.421
18.5	1007.517
19.0	1000.874
19.5	994.231
20.0	986.111
20.5	977.254
21.0	967.659
21.5	958.063
22.0	946.992
22.5	935.920
23.0	924.110
23.5	912.301
24.0	899.753
24.5	886.467
25.0	873.919
25.5	859.895
26.0	846.609
26.5	832.585

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES****CANDELA TABULATION - (Cont.)**

27.0	818.561
27.5	803.799
28.0	789.037
28.5	775.013
29.0	760.251
29.5	745.488
30.0	730.357
30.5	715.374
31.0	700.021
31.5	684.595
32.0	669.316
32.5	653.889
33.0	638.389
33.5	622.741
34.0	607.167
34.5	591.888
35.0	578.086
35.5	564.283
36.0	550.628
36.5	535.497
37.0	519.923
37.5	504.349
38.0	488.849
38.5	473.422
39.0	458.143
39.5	442.864
40.0	427.659
40.5	412.528
41.0	397.545
41.5	382.709
42.0	368.020
42.5	353.406
43.0	338.939
43.5	324.841
44.0	310.891
44.5	297.383
45.0	284.245
45.5	271.254
46.0	258.559
46.5	246.233
47.0	234.349
47.5	222.613
48.0	211.320
48.5	200.175
49.0	189.325
49.5	178.843
50.0	168.584
50.5	158.619
51.0	149.024
51.5	139.502
52.0	130.276
52.5	121.271
53.0	112.266
53.5	103.409
54.0	94.404
54.5	85.325

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES****CANDELA TABULATION - (Cont.)**

55.0	76.320
55.5	67.537
56.0	59.196
56.5	51.372
57.0	43.917
57.5	37.127
58.0	30.927
58.5	25.539
59.0	20.815
59.5	16.903
60.0	13.803
60.5	11.219
61.0	9.300
61.5	7.824
62.0	6.643
62.5	5.757
63.0	4.945
63.5	4.355
64.0	3.912
64.5	3.469
65.0	3.100
65.5	2.805
66.0	2.583
66.5	2.362
67.0	2.141
67.5	1.993
68.0	1.845
68.5	1.624
69.0	1.550
69.5	1.402
70.0	1.255
70.5	1.181
71.0	1.107
71.5	0.960
72.0	0.886
72.5	0.812
73.0	0.738
73.5	0.738
74.0	0.664
74.5	0.590
75.0	0.517
75.5	0.517
76.0	0.443
76.5	0.443
77.0	0.369
77.5	0.369
78.0	0.295
78.5	0.295
79.0	0.295
79.5	0.221
80.0	0.221
80.5	0.221
81.0	0.221
81.5	0.221
82.0	0.221
82.5	0.221

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES****CANDELA TABULATION - (Cont.)**

83.0	0.221
83.5	0.221
84.0	0.221
84.5	0.221
85.0	0.221
85.5	0.221
86.0	0.295
86.5	0.295
87.0	0.295
87.5	0.295
88.0	0.295
88.5	0.295
89.0	0.295
89.5	0.221
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 : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.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 : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES

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 : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	388.19	N.A.	26.90
0-30	786.49	N.A.	54.50
0-40	1146.25	N.A.	79.40
0-60	1438.15	N.A.	99.60
0-80	1443.01	N.A.	100.00
0-90	1443.27	N.A.	100.00
10-90	1345.05	N.A.	93.20
20-40	758.06	N.A.	52.50
20-50	978.99	N.A.	67.80
40-70	296.12	N.A.	20.50
60-80	4.86	N.A.	0.30
70-80	0.64	N.A.	0.00
80-90	0.26	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	1443.27	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	98.22
10-20	289.97
20-30	398.30
30-40	359.76
40-50	220.93
50-60	70.97
60-70	4.22
70-80	0.64
80-90	0.26
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

IES INDOOR REPORT
 PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES

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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4FDR-LS-8CS-CS-DIM-UNV_14W_3000K_.IES

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	12.5	13.7	12.9	14.0	14.3	UGR Viewed Endwise	12.5	13.7	12.9	14.0	14.3
	3H	12.4	13.4	12.8	13.7	14.1		12.4	13.4	12.8	13.7	14.1
	4H	12.3	13.2	12.7	13.6	14.0		12.3	13.2	12.7	13.6	14.0
	6H	12.2	13.0	12.6	13.4	13.8		12.2	13.0	12.6	13.4	13.8
	8H	12.1	12.9	12.6	13.3	13.7		12.1	12.9	12.6	13.3	13.7
	12H	12.1	12.9	12.5	13.2	13.7		12.1	12.9	12.5	13.2	13.7

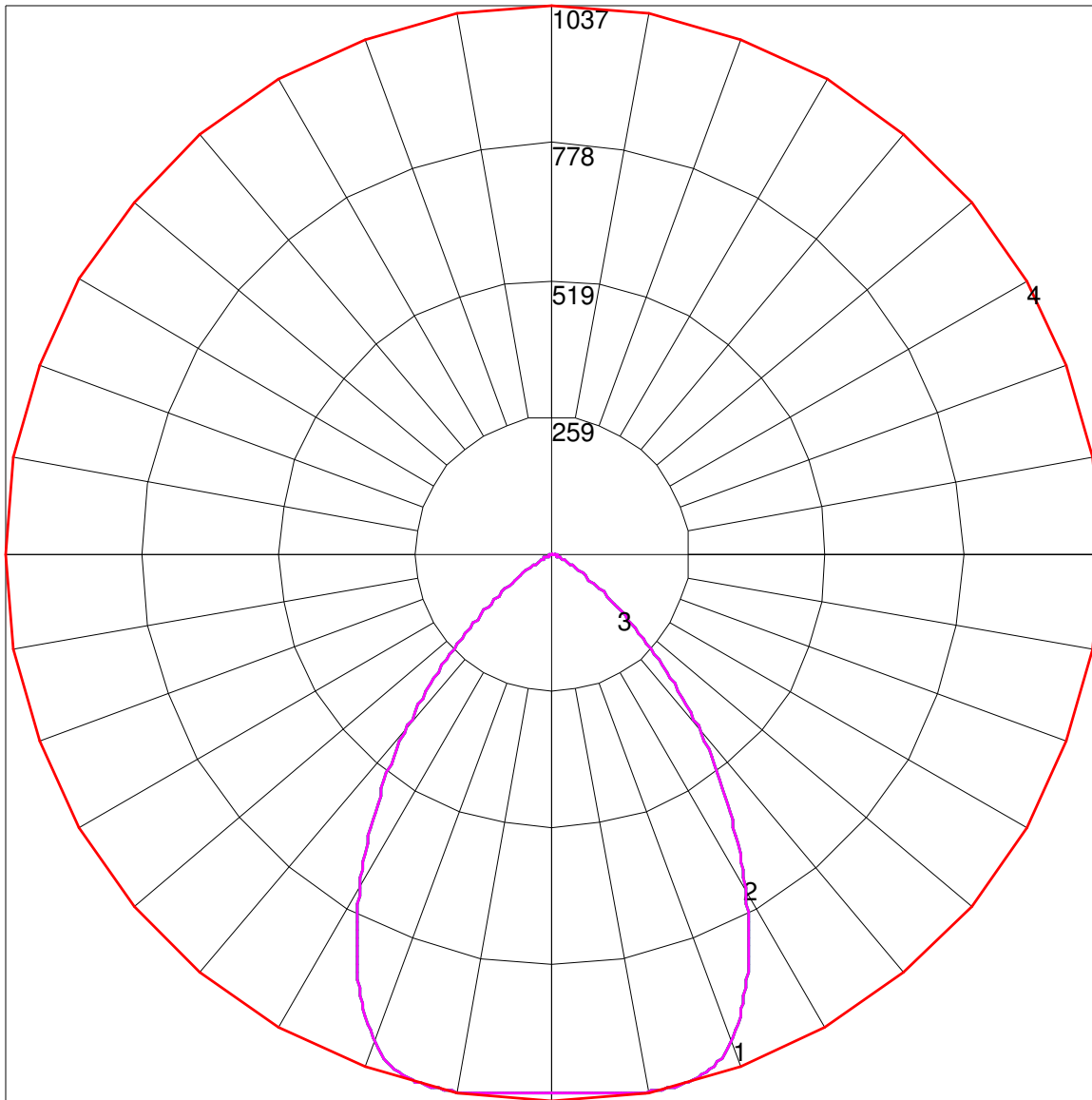
4H	2H	12.3	13.2	12.7	13.6	14.0	12.3	13.2	12.7	13.6	14.0
	3H	12.1	12.9	12.5	13.3	13.7	12.1	12.9	12.5	13.3	13.7
	4H	12.0	12.7	12.5	13.1	13.6	12.0	12.7	12.5	13.1	13.6
	6H	11.9	12.5	12.4	13.0	13.4	11.9	12.5	12.4	13.0	13.4
	8H	11.8	12.4	12.3	12.8	13.3	11.8	12.4	12.3	12.8	13.3
	12H	11.8	12.3	12.3	12.8	13.2	11.8	12.3	12.3	12.8	13.2

8H	4H	11.8	12.4	12.3	12.8	13.3	11.8	12.4	12.3	12.8	13.3
	6H	11.8	12.2	12.3	12.7	13.2	11.8	12.2	12.3	12.7	13.2
	8H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1
	12H	11.6	12.0	12.1	12.5	13.0	11.6	12.0	12.1	12.5	13.0

12H	4H	11.8	12.3	12.3	12.8	13.2	11.8	12.3	12.3	12.8	13.2
	6H	11.7	12.1	12.2	12.5	13.1	11.7	12.1	12.2	12.5	13.1
	8H	11.6	12.0	12.1	12.5	13.0	11.6	12.0	12.1	12.5	13.0

Maximum UGR = 14.3

POLAR GRAPH



Maximum Candela = 1037.041 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.)