



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM 15248898.04
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 2024-04-30
[TEST DATE] 4/16/2024
[MANUFACTURER] H.E. WILLIAMS, INC.
[MORE] CARTHAGE, MO. 64836
[LUMEN CATEGORY] 4FDR-LS-8CS-WH-DIM-UNV_14W_3000K
[LUMINAIRE] 4 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	1201
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	14
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	1.00
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	36263	36263	36263
55	26669	26669	26669
65	21118	21118	21118
75	16703	16703	16703
85	12375	12375	12375

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CANDELA TABULATION

	<u>0</u>
0.0	830.510
0.5	829.782
1.0	829.782
1.5	829.054
2.0	829.054
2.5	828.326
3.0	827.598
3.5	826.142
4.0	825.415
4.5	823.959
5.0	822.503
5.5	821.047
6.0	818.864
6.5	816.680
7.0	814.496
7.5	812.313
8.0	810.129
8.5	807.945
9.0	805.762
9.5	802.850
10.0	800.667
10.5	797.755
11.0	794.844
11.5	791.932
12.0	789.021
12.5	785.381
13.0	781.742
13.5	778.102
14.0	773.735
14.5	769.368
15.0	765.001
15.5	760.633
16.0	755.538
16.5	750.443
17.0	744.620
17.5	738.797
18.0	732.246
18.5	725.695
19.0	718.416
19.5	710.701
20.0	702.621
20.5	694.178
21.0	685.735
21.5	676.927
22.0	667.756
22.5	658.366
23.0	648.831
23.5	638.932
24.0	628.887
24.5	618.551
25.0	607.852
25.5	596.788
26.0	585.433
26.5	573.787

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

27.0	562.141
27.5	550.786
28.0	539.577
28.5	528.222
29.0	516.721
29.5	505.293
30.0	493.866
30.5	482.292
31.0	470.646
31.5	459.073
32.0	447.573
32.5	436.145
33.0	425.008
33.5	413.945
34.0	403.026
34.5	392.327
35.0	381.700
35.5	371.364
36.0	361.101
36.5	350.983
37.0	340.866
37.5	330.821
38.0	320.995
38.5	311.387
39.0	301.924
39.5	292.753
40.0	283.873
40.5	275.065
41.0	266.622
41.5	258.470
42.0	250.463
42.5	242.748
43.0	235.178
43.5	227.972
44.0	220.911
44.5	214.142
45.0	207.664
45.5	201.477
46.0	195.654
46.5	190.049
47.0	184.663
47.5	179.495
48.0	174.618
48.5	169.960
49.0	165.592
49.5	161.371
50.0	157.295
50.5	153.437
51.0	149.725
51.5	146.158
52.0	142.737
52.5	139.389
53.0	136.113
53.5	132.911
54.0	129.854
54.5	126.796

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55.0	123.885
55.5	121.046
56.0	118.135
56.5	115.296
57.0	112.457
57.5	109.691
58.0	106.925
58.5	104.232
59.0	101.539
59.5	98.919
60.0	96.298
60.5	93.678
61.0	91.130
61.5	88.583
62.0	86.181
62.5	83.779
63.0	81.377
63.5	79.048
64.0	76.718
64.5	74.462
65.0	72.278
65.5	70.095
66.0	67.911
66.5	65.800
67.0	63.762
67.5	61.724
68.0	59.759
68.5	57.794
69.0	55.901
69.5	54.009
70.0	52.116
70.5	50.296
71.0	48.477
71.5	46.730
72.0	44.983
72.5	43.236
73.0	41.562
73.5	39.888
74.0	38.214
74.5	36.612
75.0	35.011
75.5	33.482
76.0	31.954
76.5	30.425
77.0	28.970
77.5	27.514
78.0	26.058
78.5	24.675
79.0	23.292
79.5	21.909
80.0	20.599
80.5	19.289
81.0	18.051
81.5	16.741
82.0	15.504
82.5	14.339

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83.0	13.175
83.5	12.010
84.0	10.918
84.5	9.826
85.0	8.735
85.5	7.716
86.0	6.696
86.5	5.677
87.0	4.731
87.5	3.785
88.0	2.984
88.5	2.111
89.0	1.383
89.5	0.873
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
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

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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
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153.0	0.000
153.5	0.000
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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	291.97	N.A.	24.30
0-30	568.56	N.A.	47.30
0-40	807.13	N.A.	67.20
0-60	1081.41	N.A.	90.00
0-80	1190.89	N.A.	99.20
0-90	1200.95	N.A.	100.00
10-90	1123.17	N.A.	93.50
20-40	515.16	N.A.	42.90
20-50	678.02	N.A.	56.50
40-70	346.36	N.A.	28.80
60-80	109.48	N.A.	9.10
70-80	37.41	N.A.	3.10
80-90	10.05	N.A.	0.80
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	1200.95	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	77.78
10-20	214.19
20-30	276.59
30-40	238.57
40-50	162.86
50-60	111.42
60-70	72.07
70-80	37.41
80-90	10.05
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	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	70
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	66	62	58	56
6	78	67	60	54	77	66	59	54	65	58	54	63	57	53	62	57	53	51
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	54	48	44	43
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	39
10	62	50	43	39	61	50	43	39	49	43	38	48	42	38	47	42	38	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	20.9	22.2	21.2	22.5	22.8	20.9	22.2	21.2	22.5	22.8
	3H	22.2	23.4	22.6	23.8	24.1	22.2	23.4	22.6	23.8	24.1
	4H	22.7	23.8	23.1	24.2	24.6	22.7	23.8	23.1	24.2	24.6
	6H	23.0	24.1	23.5	24.4	24.8	23.0	24.1	23.5	24.4	24.8
	8H	23.1	24.1	23.6	24.5	24.9	23.1	24.1	23.6	24.5	24.9
	12H	23.2	24.1	23.6	24.5	25.0	23.2	24.1	23.6	24.5	25.0

UGR Viewed Endwise

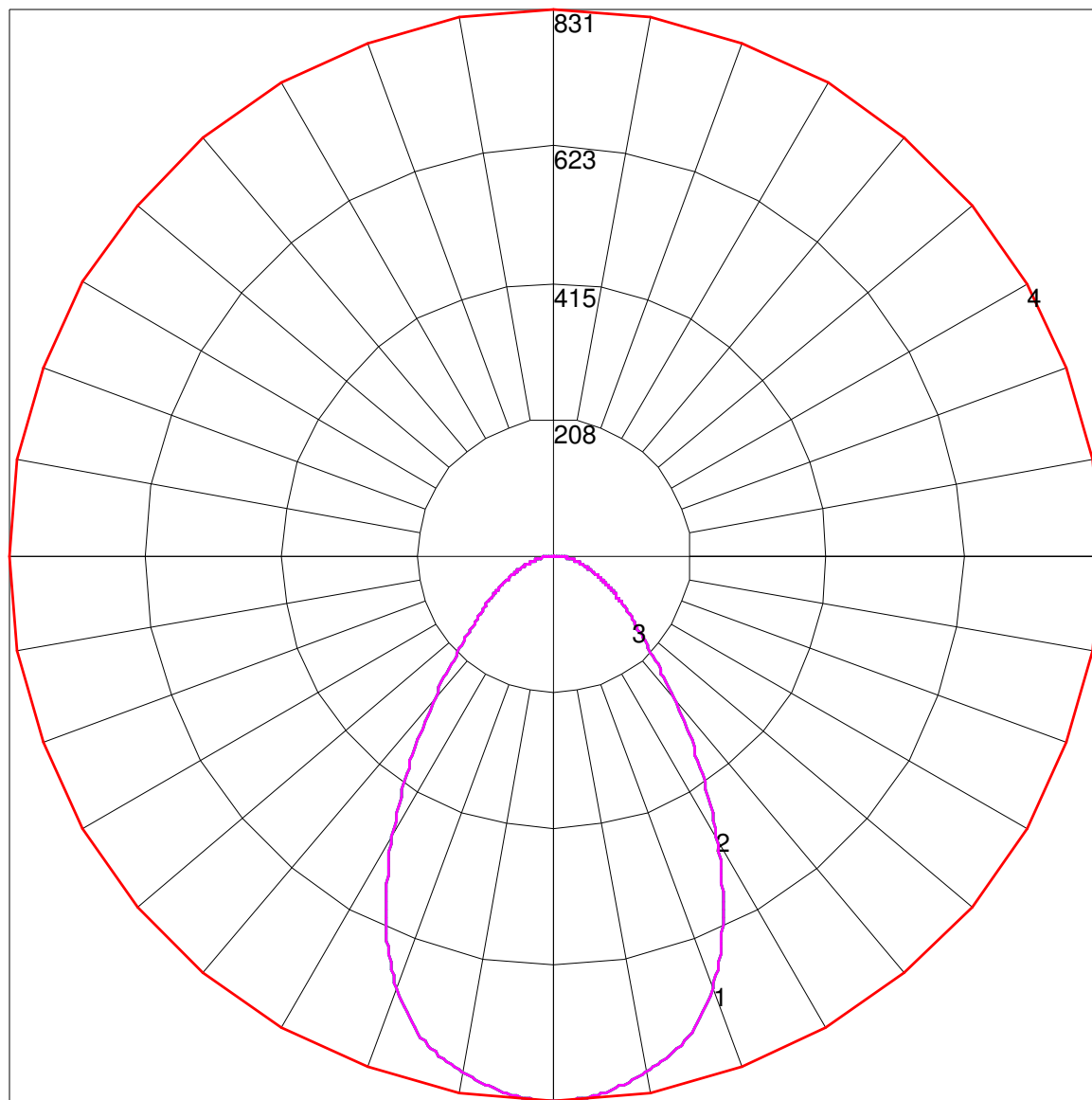
4H	2H	21.3	22.4	21.7	22.8	23.2	21.3	22.4	21.7	22.8	23.2
	3H	22.9	23.8	23.3	24.2	24.6	22.9	23.8	23.3	24.2	24.6
	4H	23.5	24.3	23.9	24.7	25.2	23.5	24.3	23.9	24.7	25.2
	6H	23.9	24.7	24.4	25.1	25.6	23.9	24.7	24.4	25.1	25.6
	8H	24.1	24.7	24.5	25.2	25.7	24.1	24.7	24.5	25.2	25.7
	12H	24.2	24.8	24.7	25.2	25.7	24.2	24.8	24.7	25.2	25.7

8H	4H	23.7	24.3	24.1	24.8	25.3	23.7	24.3	24.1	24.8	25.3
	6H	24.2	24.8	24.7	25.3	25.8	24.2	24.8	24.7	25.3	25.8
	8H	24.4	24.9	24.9	25.4	25.9	24.4	24.9	24.9	25.4	25.9
	12H	24.6	25.0	25.1	25.5	26.1	24.6	25.0	25.1	25.5	26.1

12H	4H	23.7	24.3	24.2	24.7	25.2	23.7	24.3	24.2	24.7	25.2
	6H	24.3	24.8	24.8	25.2	25.8	24.3	24.8	24.8	25.2	25.8
	8H	24.5	24.9	25.0	25.4	26.0	24.5	24.9	25.0	25.4	26.0

Maximum UGR = 26.1

POLAR GRAPH



Maximum Candela = 830.51 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.)