

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P560772

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560772
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1HI-35-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3138.0 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

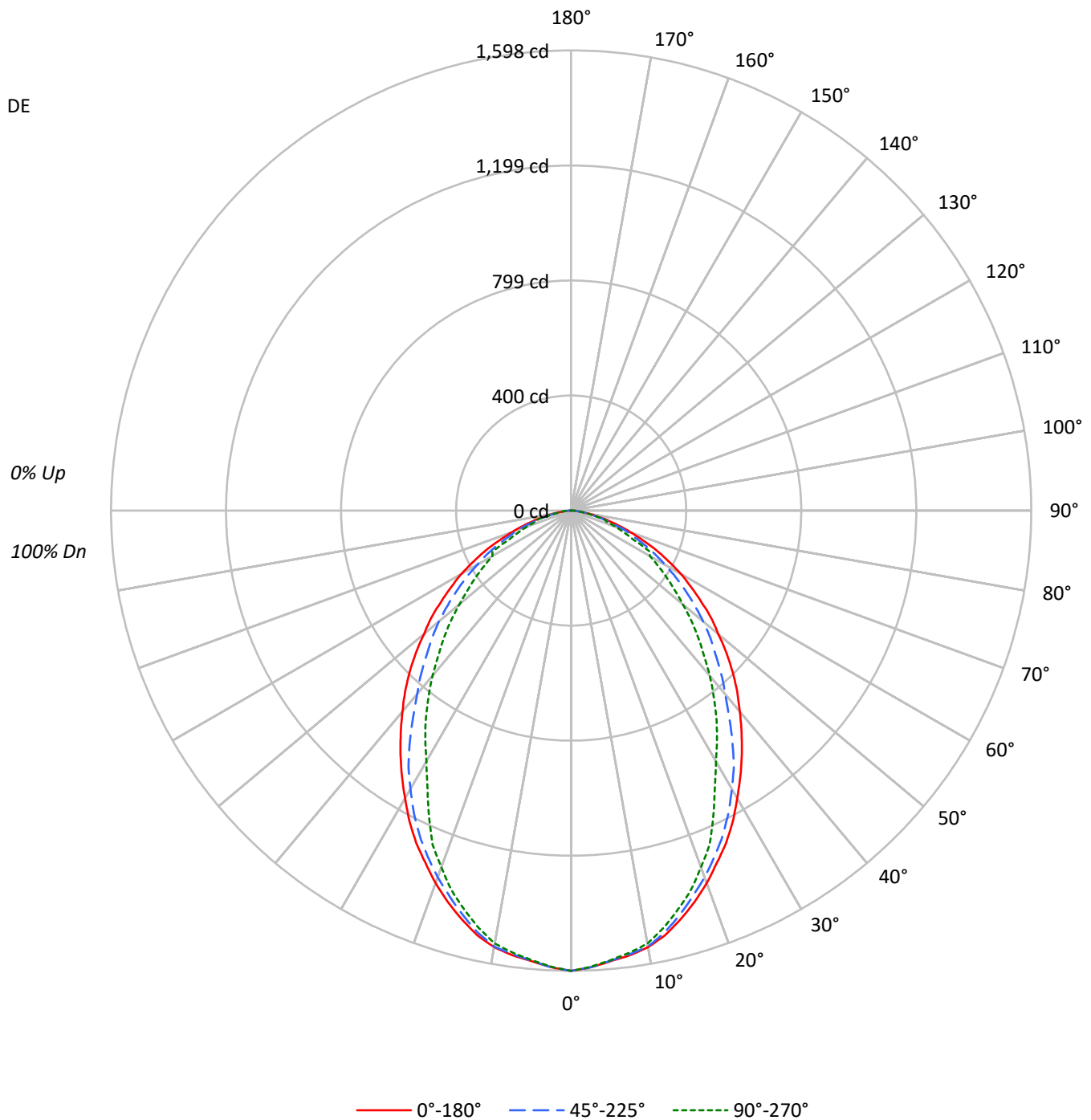
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4302	4302	4302
5°	4243	4238	4233
10°	4206	4201	4171
15°	4093	4052	3995
20°	3942	3879	3773
25°	3780	3698	3468
30°	3583	3468	3124
35°	3393	3205	2890
40°	3200	2921	2629
45°	3017	2700	2377
50°	2793	2506	2120
55°	2584	2272	1899
60°	2367	2029	1701
65°	2083	1777	1506
70°	1716	1555	1279
75°	1364	1192	1249
80°	916	859	801
85°	571	685	800

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3017 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.8	4.7
10°-20°	408.4	13.0
20°-30°	565.3	18.0
30°-40°	602.8	19.2
40°-50°	549.9	17.5
50°-60°	430.8	13.7
60°-70°	280.8	8.9
70°-80°	124.4	4.0
80°-90°	26.7	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1122.5	35.8
0°-40°	1725.3	55.0
0°-60°	2706.1	86.2
0°-90°	3138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3138.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1571	1569	1569	1567	1567	149
15°	1469	1469	1454	1440	1434	413
25°	1273	1266	1246	1201	1168	585
35°	1033	1026	976	902	880	646
45°	793	776	710	650	625	611
55°	551	534	484	427	405	494
65°	327	309	279	285	236	322
75°	131	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1587.4	1587.4	1587.4	1585.5	1585.5
5°	1570.7	1568.9	1568.9	1567.0	1567.0
7.5°	1557.8	1556.0	1554.1	1552.3	1548.6
10°	1539.3	1539.3	1537.5	1528.2	1526.4
12.5°	1509.8	1507.9	1500.5	1487.6	1483.9
15°	1469.1	1469.1	1454.3	1439.5	1434.0
17.5°	1424.8	1422.9	1404.4	1389.6	1382.2
20°	1376.7	1373.0	1354.5	1330.5	1317.6
22.5°	1323.1	1323.1	1300.9	1269.5	1256.6
25°	1273.2	1265.8	1245.5	1201.2	1167.9
27.5°	1215.9	1204.8	1182.7	1119.8	1081.0
30°	1153.1	1147.6	1116.1	1034.8	1005.3
32.5°	1094.0	1084.7	1051.5	966.5	942.4
35°	1033.0	1025.6	975.7	901.8	879.6
37.5°	972.0	962.8	899.9	840.8	813.1
40°	911.0	899.9	831.6	778.0	748.4
42.5°	853.7	839.0	772.4	715.1	681.9
45°	792.8	776.1	709.6	650.5	624.6
47.5°	731.8	717.0	656.0	595.0	565.5
50°	667.1	654.2	598.7	537.7	506.3
52.5°	613.5	593.2	539.6	478.6	452.7
55°	550.7	534.1	484.2	426.9	404.7
57.5°	493.4	476.8	430.6	377.0	358.5
60°	439.8	415.8	377.0	330.8	316.0
62.5°	380.7	362.2	328.9	290.1	308.6
65°	327.1	308.6	279.0	284.6	236.5
67.5°	267.9	258.7	232.8	207.0	199.6
70°	218.1	207.0	197.7	170.0	162.6
72.5°	173.7	162.6	149.7	134.9	129.4
75°	131.2	122.0	114.6	109.0	120.1
77.5°	90.5	86.9	81.3	75.8	73.9
80°	59.1	57.3	55.4	53.6	51.7
82.5°	35.1	35.1	35.1	35.1	35.1
85°	18.5	20.3	22.2	24.0	25.9
87.5°	11.1	11.1	12.9	14.8	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)