

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: P560776

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560776
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-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2734.0 lumens
Efficiency: N/A
Efficacy: 63.3 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

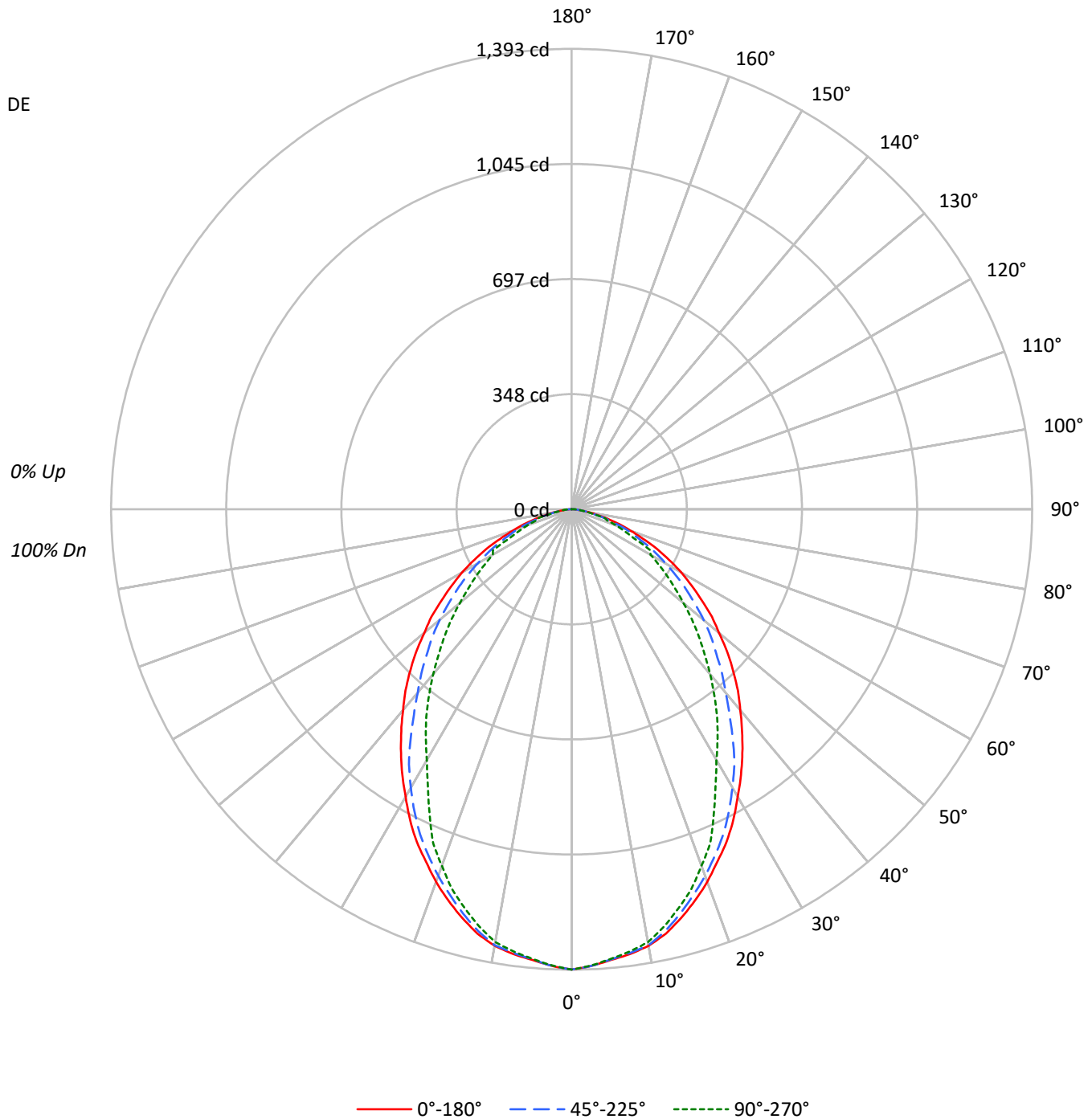
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3748	3748	3748
5°	3697	3692	3688
10°	3665	3660	3634
15°	3566	3530	3481
20°	3435	3379	3287
25°	3294	3222	3021
30°	3122	3022	2721
35°	2957	2793	2518
40°	2788	2545	2291
45°	2629	2353	2071
50°	2433	2184	1847
55°	2251	1979	1654
60°	2062	1767	1482
65°	1815	1548	1312
70°	1495	1356	1115
75°	1188	1038	1089
80°	798	748	699
85°	497	596	695

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2629 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.6	4.7
10°-20°	355.8	13.0
20°-30°	492.6	18.0
30°-40°	525.2	19.2
40°-50°	479.1	17.5
50°-60°	375.4	13.7
60°-70°	244.7	8.9
70°-80°	108.4	4.0
80°-90°	23.3	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°	978.0	35.8
0°-40°	1503.2	55.0
0°-60°	2357.7	86.2
0°-90°	2734.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2734.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1393	1393	1393	1393	1393	
5°	1368	1367	1367	1365	1365	130
15°	1280	1280	1267	1254	1249	360
25°	1109	1103	1085	1046	1018	509
35°	900	894	850	786	766	563
45°	691	676	618	567	544	532
55°	480	465	422	372	353	430
65°	285	269	243	248	206	281
75°	114	106	100	95	105	123
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1392.7	1392.7	1392.7	1392.7	1392.7
2.5°	1383.0	1383.0	1383.0	1381.4	1381.4
5°	1368.5	1366.9	1366.9	1365.3	1365.3
7.5°	1357.2	1355.6	1354.0	1352.4	1349.2
10°	1341.1	1341.1	1339.5	1331.5	1329.9
12.5°	1315.4	1313.8	1307.3	1296.1	1292.8
15°	1280.0	1280.0	1267.1	1254.2	1249.4
17.5°	1241.3	1239.7	1223.6	1210.7	1204.3
20°	1199.5	1196.2	1180.1	1159.2	1147.9
22.5°	1152.8	1152.8	1133.5	1106.1	1094.8
25°	1109.3	1102.9	1085.2	1046.5	1017.5
27.5°	1059.4	1049.7	1030.4	975.7	941.9
30°	1004.6	999.8	972.4	901.6	875.8
32.5°	953.1	945.1	916.1	842.0	821.1
35°	900.0	893.6	850.1	785.7	766.4
37.5°	846.9	838.8	784.1	732.6	708.4
40°	793.7	784.1	724.5	677.8	652.1
42.5°	743.8	730.9	673.0	623.1	594.1
45°	690.7	676.2	618.2	566.7	544.2
47.5°	637.6	624.7	571.6	518.4	492.7
50°	581.2	569.9	521.6	468.5	441.1
52.5°	534.5	516.8	470.1	417.0	394.5
55°	479.8	465.3	421.8	371.9	352.6
57.5°	429.9	415.4	375.1	328.4	312.3
60°	383.2	362.3	328.4	288.2	275.3
62.5°	331.7	315.6	286.6	252.8	268.9
65°	285.0	268.9	243.1	247.9	206.1
67.5°	233.5	225.4	202.9	180.3	173.9
70°	190.0	180.3	172.3	148.1	141.7
72.5°	151.3	141.7	130.4	117.5	112.7
75°	114.3	106.3	99.8	95.0	104.7
77.5°	78.9	75.7	70.8	66.0	64.4
80°	51.5	49.9	48.3	46.7	45.1
82.5°	30.6	30.6	30.6	30.6	30.6
85°	16.1	17.7	19.3	20.9	22.5
87.5°	9.7	9.7	11.3	12.9	14.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)