

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: P560774

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560774
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-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3037.0 lumens
Efficiency: N/A
Efficacy: 70.3 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

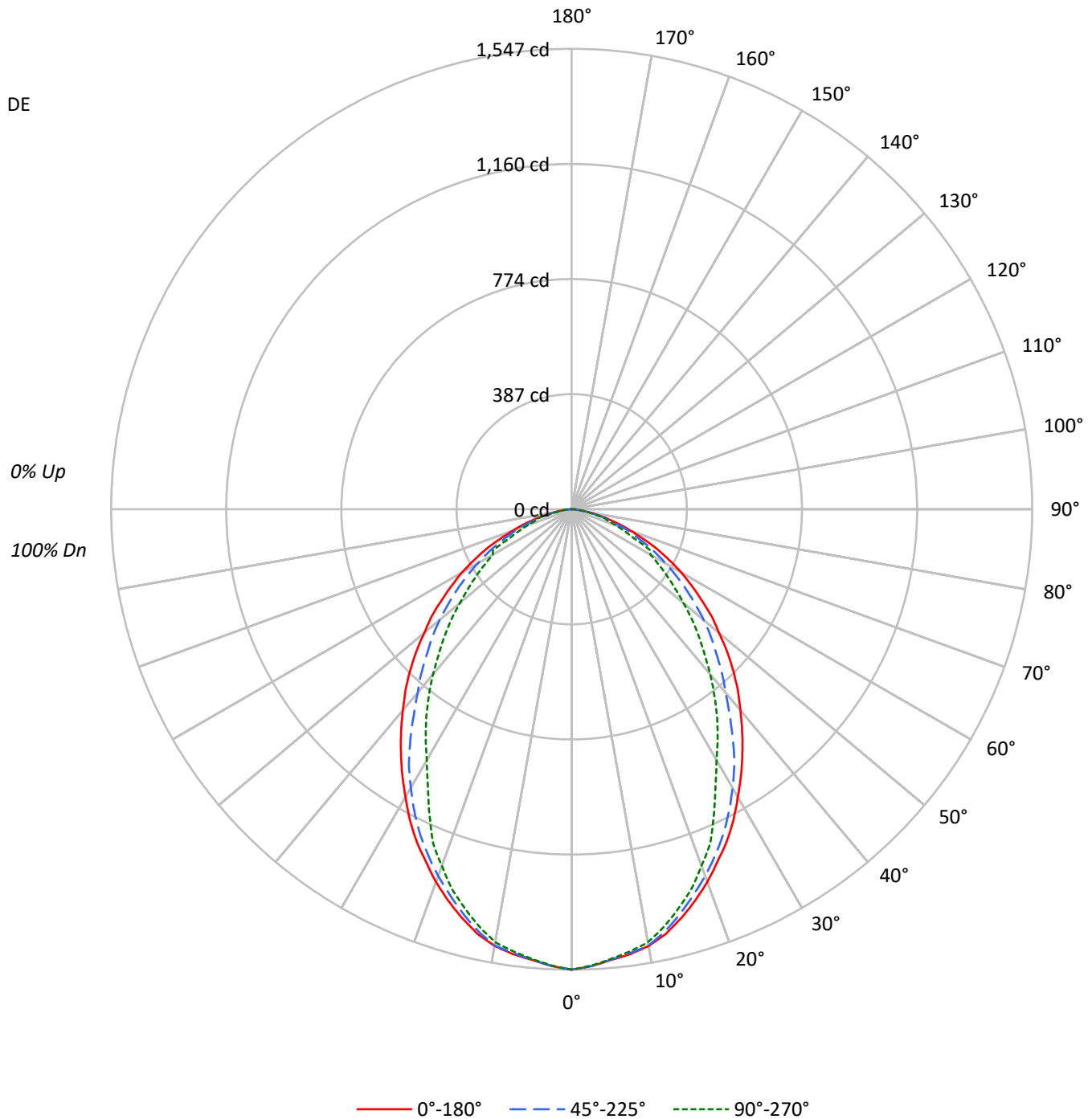
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4163	4163	4163
5°	4106	4102	4097
10°	4071	4066	4037
15°	3961	3921	3866
20°	3816	3754	3652
25°	3659	3579	3356
30°	3468	3356	3023
35°	3284	3102	2797
40°	3097	2827	2544
45°	2920	2614	2300
50°	2703	2426	2051
55°	2501	2198	1838
60°	2291	1963	1646
65°	2016	1720	1457
70°	1660	1506	1238
75°	1320	1153	1208
80°	886	832	776
85°	553	664	772

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2920 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.0	4.7
10°-20°	395.2	13.0
20°-30°	547.1	18.0
30°-40°	583.4	19.2
40°-50°	532.2	17.5
50°-60°	417.0	13.7
60°-70°	271.8	8.9
70°-80°	120.4	4.0
80°-90°	25.9	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°	1086.4	35.8
0°-40°	1669.8	55.0
0°-60°	2619.0	86.2
0°-90°	3037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3037.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1547	1547	1547	1547	1547	
5°	1520	1518	1518	1517	1517	144
15°	1422	1422	1408	1393	1388	400
25°	1232	1225	1205	1162	1130	566
35°	1000	993	944	873	851	625
45°	767	751	687	630	604	591
55°	533	517	469	413	392	478
65°	317	299	270	275	229	312
75°	127	118	111	106	116	136
85°	18	20	22	23	25	25
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1547.0	1547.0	1547.0	1547.0	1547.0
2.5°	1536.3	1536.3	1536.3	1534.5	1534.5
5°	1520.2	1518.4	1518.4	1516.6	1516.6
7.5°	1507.7	1505.9	1504.1	1502.3	1498.7
10°	1489.8	1489.8	1488.0	1479.0	1477.3
12.5°	1461.2	1459.4	1452.2	1439.7	1436.1
15°	1421.8	1421.8	1407.5	1393.2	1387.8
17.5°	1378.9	1377.1	1359.2	1344.9	1337.8
20°	1332.4	1328.8	1310.9	1287.7	1275.2
22.5°	1280.5	1280.5	1259.1	1228.7	1216.1
25°	1232.2	1225.1	1205.4	1162.5	1130.3
27.5°	1176.8	1166.1	1144.6	1083.8	1046.2
30°	1116.0	1110.6	1080.2	1001.5	972.9
32.5°	1058.8	1049.8	1017.6	935.4	912.1
35°	999.7	992.6	944.3	872.8	851.3
37.5°	940.7	931.8	871.0	813.7	786.9
40°	881.7	871.0	804.8	752.9	724.3
42.5°	826.3	812.0	747.6	692.1	659.9
45°	767.2	751.1	686.8	629.5	604.5
47.5°	708.2	693.9	634.9	575.9	547.3
50°	645.6	633.1	579.5	520.4	490.0
52.5°	593.8	574.1	522.2	463.2	438.2
55°	533.0	516.9	468.6	413.1	391.7
57.5°	477.5	461.4	416.7	364.8	347.0
60°	425.7	402.4	364.8	320.1	305.8
62.5°	368.4	350.5	318.3	280.8	298.7
65°	316.6	298.7	270.1	275.4	228.9
67.5°	259.3	250.4	225.3	200.3	193.2
70°	211.0	200.3	191.4	164.5	157.4
72.5°	168.1	157.4	144.9	130.6	125.2
75°	127.0	118.0	110.9	105.5	116.2
77.5°	87.6	84.1	78.7	73.3	71.5
80°	57.2	55.4	53.7	51.9	50.1
82.5°	34.0	34.0	34.0	34.0	34.0
85°	17.9	19.7	21.5	23.2	25.0
87.5°	10.7	10.7	12.5	14.3	16.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)