

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: P561287

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561287
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-LD4-1STD-50-UNV-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3039.0 lumens
Efficiency: N/A
Efficacy: 91.3 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

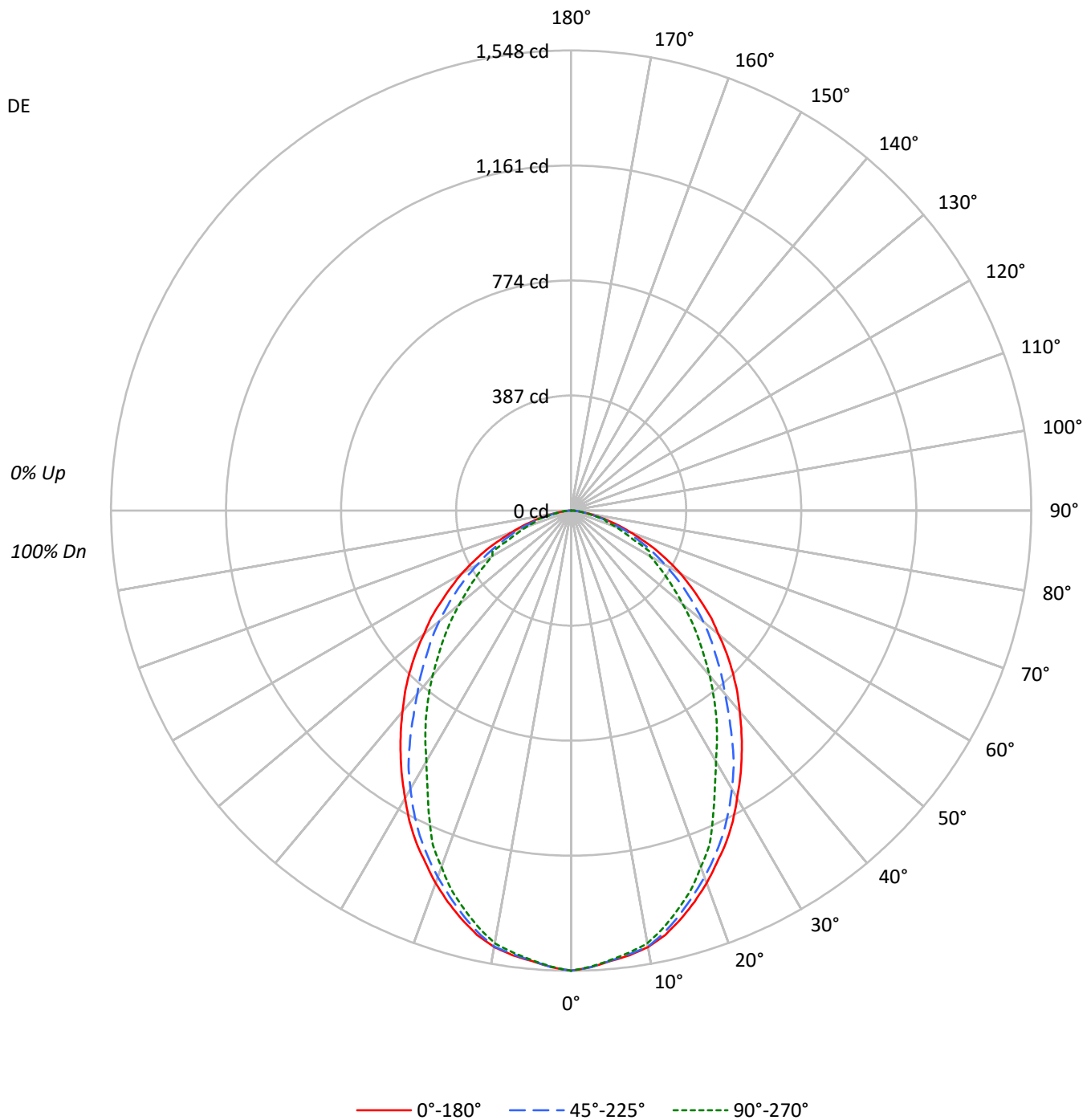
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4166	4166	4166
5°	4109	4104	4099
10°	4074	4069	4039
15°	3964	3924	3869
20°	3818	3757	3654
25°	3661	3581	3358
30°	3470	3359	3025
35°	3286	3104	2799
40°	3099	2829	2546
45°	2922	2615	2302
50°	2705	2427	2053
55°	2502	2200	1839
60°	2292	1965	1647
65°	2017	1720	1459
70°	1662	1507	1239
75°	1321	1154	1209
80°	888	832	776
85°	553	664	775

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2922 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.1	4.7
10°-20°	395.5	13.0
20°-30°	547.5	18.0
30°-40°	583.8	19.2
40°-50°	532.6	17.5
50°-60°	417.2	13.7
60°-70°	271.9	8.9
70°-80°	120.5	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°	1087.1	35.8
0°-40°	1670.9	55.0
0°-60°	2620.7	86.2
0°-90°	3039.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3039.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1548	1548	1548	1548	1548	
5°	1521	1519	1519	1518	1518	144
15°	1423	1423	1408	1394	1389	400
25°	1233	1226	1206	1163	1131	566
35°	1000	993	945	873	852	625
45°	768	752	687	630	605	591
55°	533	517	469	413	392	478
65°	317	299	270	276	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°	1548.0	1548.0	1548.0	1548.0	1548.0
2.5°	1537.3	1537.3	1537.3	1535.5	1535.5
5°	1521.2	1519.4	1519.4	1517.6	1517.6
7.5°	1508.7	1506.9	1505.1	1503.3	1499.7
10°	1490.8	1490.8	1489.0	1480.0	1478.2
12.5°	1462.1	1460.3	1453.2	1440.6	1437.1
15°	1422.8	1422.8	1408.4	1394.1	1388.7
17.5°	1379.8	1378.0	1360.1	1345.8	1338.6
20°	1333.3	1329.7	1311.8	1288.5	1276.0
22.5°	1281.4	1281.4	1259.9	1229.5	1216.9
25°	1233.1	1225.9	1206.2	1163.3	1131.0
27.5°	1177.6	1166.8	1145.4	1084.5	1046.9
30°	1116.7	1111.4	1080.9	1002.2	973.6
32.5°	1059.5	1050.5	1018.3	936.0	912.7
35°	1000.4	993.2	944.9	873.3	851.9
37.5°	941.3	932.4	871.5	814.3	787.4
40°	882.3	871.5	805.3	753.4	724.8
42.5°	826.8	812.5	748.1	692.6	660.4
45°	767.7	751.6	687.2	629.9	604.9
47.5°	708.7	694.4	635.3	576.3	547.6
50°	646.1	633.5	579.8	520.8	490.4
52.5°	594.2	574.5	522.6	463.5	438.5
55°	533.3	517.2	468.9	413.4	391.9
57.5°	477.8	461.7	417.0	365.1	347.2
60°	425.9	402.7	365.1	320.3	306.0
62.5°	368.7	350.8	318.6	281.0	298.9
65°	316.8	298.9	270.2	275.6	229.1
67.5°	259.5	250.5	225.5	200.4	193.3
70°	211.2	200.4	191.5	164.6	157.5
72.5°	168.2	157.5	145.0	130.6	125.3
75°	127.1	118.1	111.0	105.6	116.3
77.5°	87.7	84.1	78.7	73.4	71.6
80°	57.3	55.5	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	23.3	25.1
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)