

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: P561179

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561179
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-35-UNV-82-94-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3096.0 lumens
Efficiency: N/A
Efficacy: 93.0 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

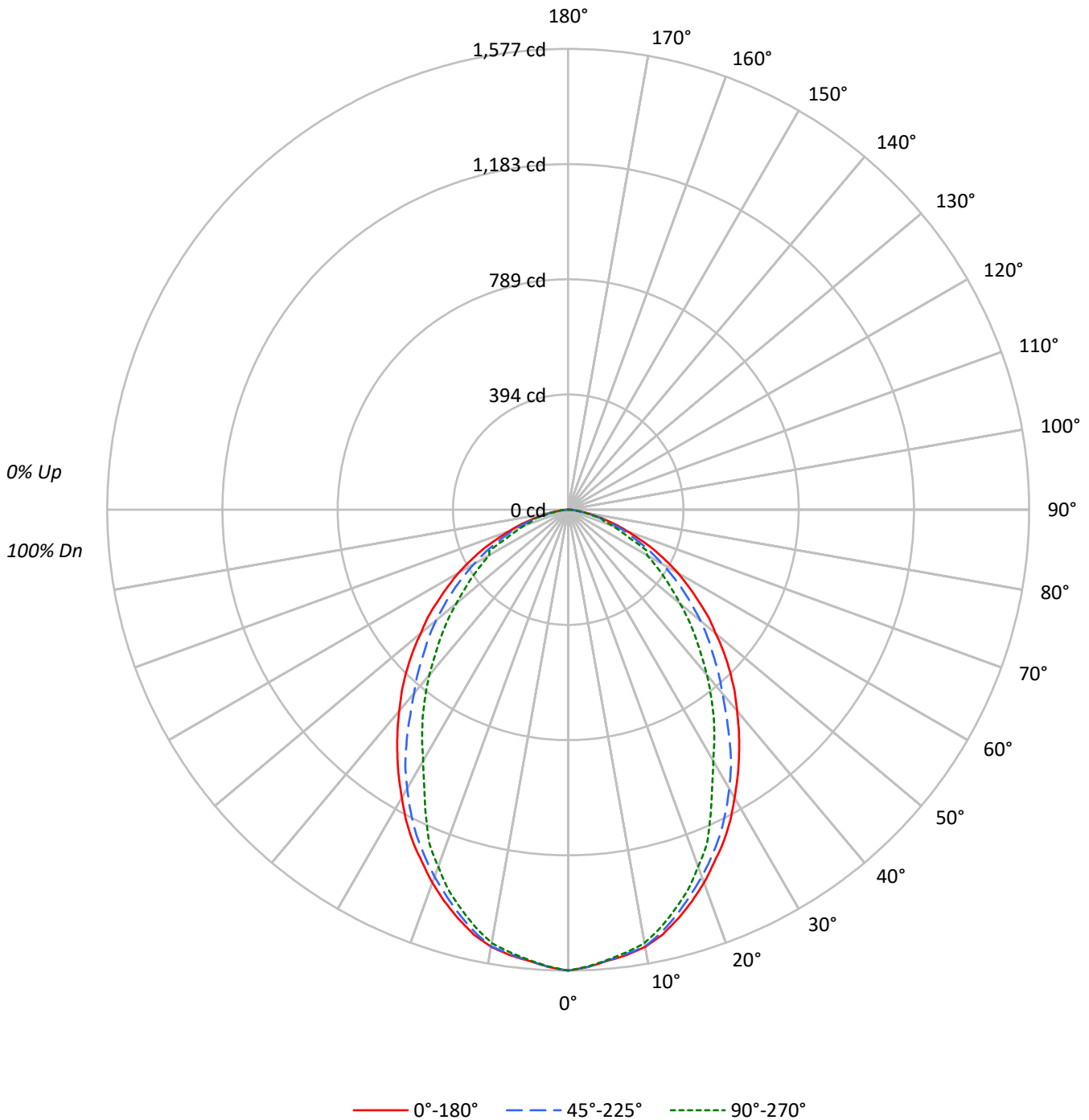
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4244	4244	4244
5°	4186	4181	4176
10°	4150	4145	4115
15°	4038	3997	3942
20°	3890	3827	3722
25°	3730	3649	3421
30°	3535	3422	3082
35°	3348	3162	2851
40°	3157	2882	2594
45°	2976	2664	2345
50°	2756	2473	2092
55°	2549	2241	1873
60°	2335	2002	1678
65°	2055	1753	1486
70°	1692	1535	1262
75°	1345	1175	1232
80°	903	848	790
85°	562	676	787

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2976 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	4.7
10°-20°	402.9	13.0
20°-30°	557.8	18.0
30°-40°	594.7	19.2
40°-50°	542.6	17.5
50°-60°	425.1	13.7
60°-70°	277.0	8.9
70°-80°	122.7	4.0
80°-90°	26.3	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°	1107.5	35.8
0°-40°	1702.2	55.0
0°-60°	2669.9	86.2
0°-90°	3096.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1550	1548	1548	1546	1546	147
15°	1449	1449	1435	1420	1415	407
25°	1256	1249	1229	1185	1152	577
35°	1019	1012	963	890	868	637
45°	782	766	700	642	616	602
55°	543	527	478	421	399	487
65°	323	304	275	281	233	318
75°	129	120	113	108	118	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1577.1	1577.1	1577.1	1577.1	1577.1
2.5°	1566.1	1566.1	1566.1	1564.3	1564.3
5°	1549.7	1547.9	1547.9	1546.1	1546.1
7.5°	1537.0	1535.1	1533.3	1531.5	1527.8
10°	1518.7	1518.7	1516.9	1507.8	1506.0
12.5°	1489.5	1487.7	1480.4	1467.7	1464.0
15°	1449.4	1449.4	1434.9	1420.3	1414.8
17.5°	1405.7	1403.9	1385.6	1371.0	1363.7
20°	1358.3	1354.6	1336.4	1312.7	1299.9
22.5°	1305.4	1305.4	1283.5	1252.5	1239.8
25°	1256.2	1248.9	1228.8	1185.1	1152.3
27.5°	1199.7	1188.7	1166.8	1104.9	1066.6
30°	1137.7	1132.2	1101.2	1021.0	991.8
32.5°	1079.3	1070.2	1037.4	953.5	929.8
35°	1019.2	1011.9	962.6	889.7	867.8
37.5°	959.0	949.9	887.9	829.6	802.2
40°	898.8	887.9	820.4	767.6	738.4
42.5°	842.3	827.7	762.1	705.6	672.8
45°	782.1	765.7	700.1	641.8	616.2
47.5°	722.0	707.4	647.2	587.1	557.9
50°	658.2	645.4	590.7	530.5	499.6
52.5°	605.3	585.2	532.4	472.2	446.7
55°	543.3	526.9	477.7	421.2	399.3
57.5°	486.8	470.4	424.8	371.9	353.7
60°	433.9	410.2	371.9	326.4	311.8
62.5°	375.6	357.3	324.5	286.2	304.5
65°	322.7	304.5	275.3	280.8	233.4
67.5°	264.4	255.2	229.7	204.2	196.9
70°	215.1	204.2	195.1	167.7	160.4
72.5°	171.4	160.4	147.7	133.1	127.6
75°	129.4	120.3	113.0	107.6	118.5
77.5°	89.3	85.7	80.2	74.8	72.9
80°	58.3	56.5	54.7	52.9	51.0
82.5°	34.6	34.6	34.6	34.6	34.6
85°	18.2	20.1	21.9	23.7	25.5
87.5°	10.9	10.9	12.8	14.6	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)