

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: P561247

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561247
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-40-UNV-82-97-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3046.0 lumens
Efficiency: N/A
Efficacy: 91.5 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

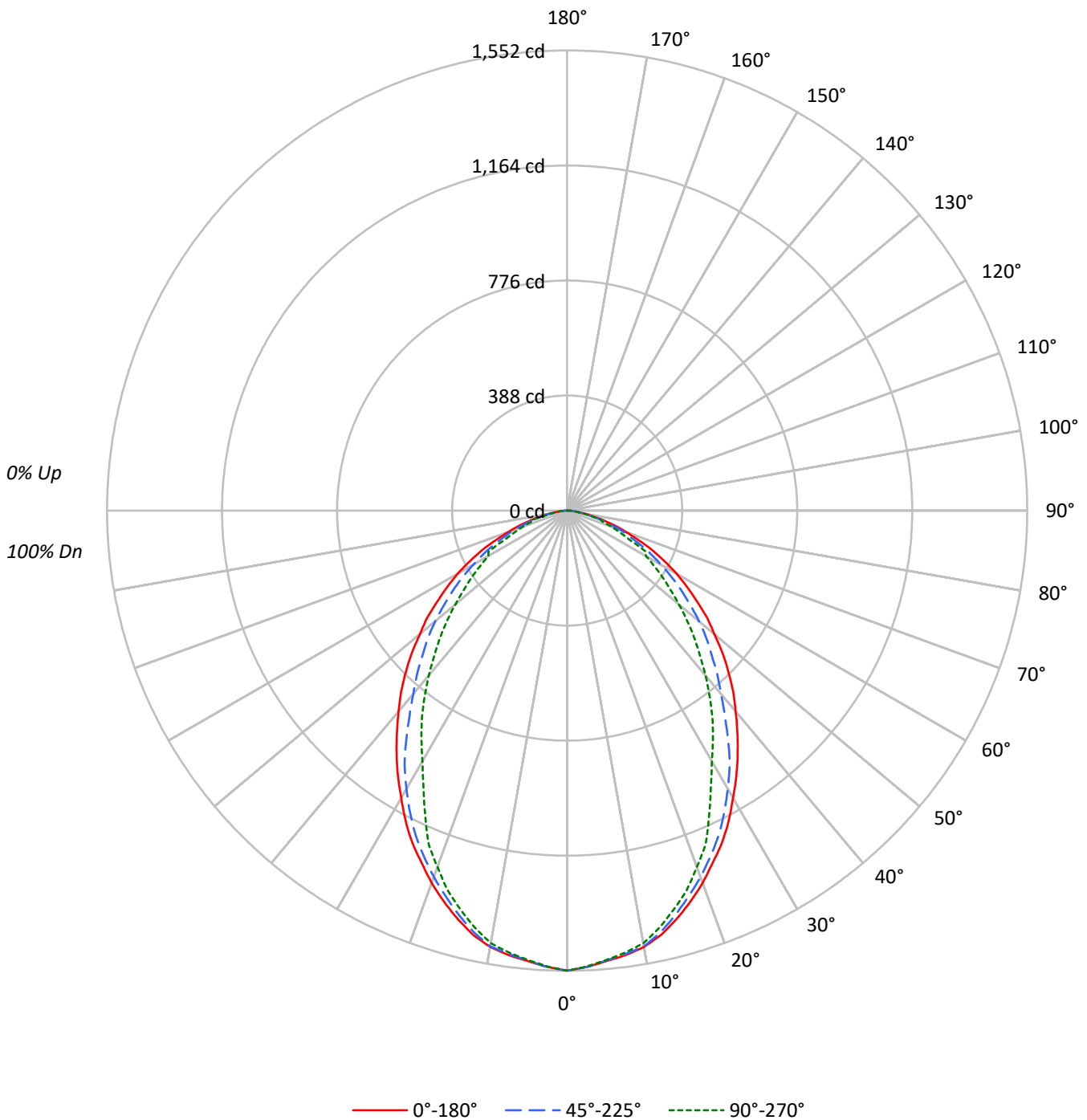
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4175	4175	4175
5°	4119	4114	4109
10°	4083	4078	4048
15°	3973	3933	3878
20°	3827	3765	3662
25°	3670	3590	3366
30°	3478	3366	3032
35°	3294	3111	2805
40°	3106	2836	2552
45°	2928	2621	2307
50°	2711	2433	2058
55°	2508	2205	1843
60°	2298	1969	1651
65°	2022	1725	1462
70°	1666	1510	1242
75°	1325	1156	1212
80°	890	834	778
85°	553	664	775

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2928 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.4	4.7
10°-20°	396.4	13.0
20°-30°	548.8	18.0
30°-40°	585.1	19.2
40°-50°	533.8	17.5
50°-60°	418.2	13.7
60°-70°	272.6	8.9
70°-80°	120.7	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°	1089.6	35.8
0°-40°	1674.7	55.0
0°-60°	2626.7	86.2
0°-90°	3046.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3046.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1552	1552	1552	1552	1552	
5°	1525	1523	1523	1521	1521	145
15°	1426	1426	1412	1397	1392	401
25°	1236	1229	1209	1166	1134	567
35°	1003	996	947	875	854	627
45°	770	753	689	631	606	593
55°	534	518	470	414	393	479
65°	318	300	271	276	230	313
75°	127	118	111	106	117	137
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°	1551.6	1551.6	1551.6	1551.6	1551.6
2.5°	1540.8	1540.8	1540.8	1539.0	1539.0
5°	1524.7	1522.9	1522.9	1521.1	1521.1
7.5°	1512.1	1510.3	1508.5	1506.7	1503.2
10°	1494.2	1494.2	1492.4	1483.4	1481.6
12.5°	1465.5	1463.7	1456.5	1444.0	1440.4
15°	1426.0	1426.0	1411.7	1397.3	1391.9
17.5°	1383.0	1381.2	1363.2	1348.9	1341.7
20°	1336.3	1332.8	1314.8	1291.5	1278.9
22.5°	1284.3	1284.3	1262.8	1232.3	1219.7
25°	1235.9	1228.7	1209.0	1165.9	1133.6
27.5°	1180.3	1169.5	1148.0	1087.0	1049.3
30°	1119.3	1113.9	1083.4	1004.5	975.8
32.5°	1061.9	1052.9	1020.6	938.1	914.8
35°	1002.7	995.5	947.1	875.3	853.8
37.5°	943.5	934.5	873.6	816.2	789.2
40°	884.3	873.6	807.2	755.2	726.5
42.5°	828.7	814.4	749.8	694.2	661.9
45°	769.5	753.4	688.8	631.4	606.3
47.5°	710.3	696.0	636.8	577.6	548.9
50°	647.5	635.0	581.2	522.0	491.5
52.5°	595.5	575.8	523.8	464.6	439.5
55°	534.5	518.4	470.0	414.4	392.8
57.5°	478.9	462.8	417.9	365.9	348.0
60°	426.9	403.6	365.9	321.1	306.7
62.5°	369.5	351.6	319.3	281.6	299.6
65°	317.5	299.6	270.9	276.2	229.6
67.5°	260.1	251.1	226.0	200.9	193.7
70°	211.7	200.9	191.9	165.0	157.8
72.5°	168.6	157.8	145.3	130.9	125.6
75°	127.4	118.4	111.2	105.8	116.6
77.5°	87.9	84.3	78.9	73.5	71.7
80°	57.4	55.6	53.8	52.0	50.2
82.5°	34.1	34.1	34.1	34.1	34.1
85°	17.9	19.7	21.5	23.3	25.1
87.5°	10.8	10.8	12.6	14.3	16.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)