

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: P590824

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-82-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590824
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4LO-35-UNV-82-87-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5082.0 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

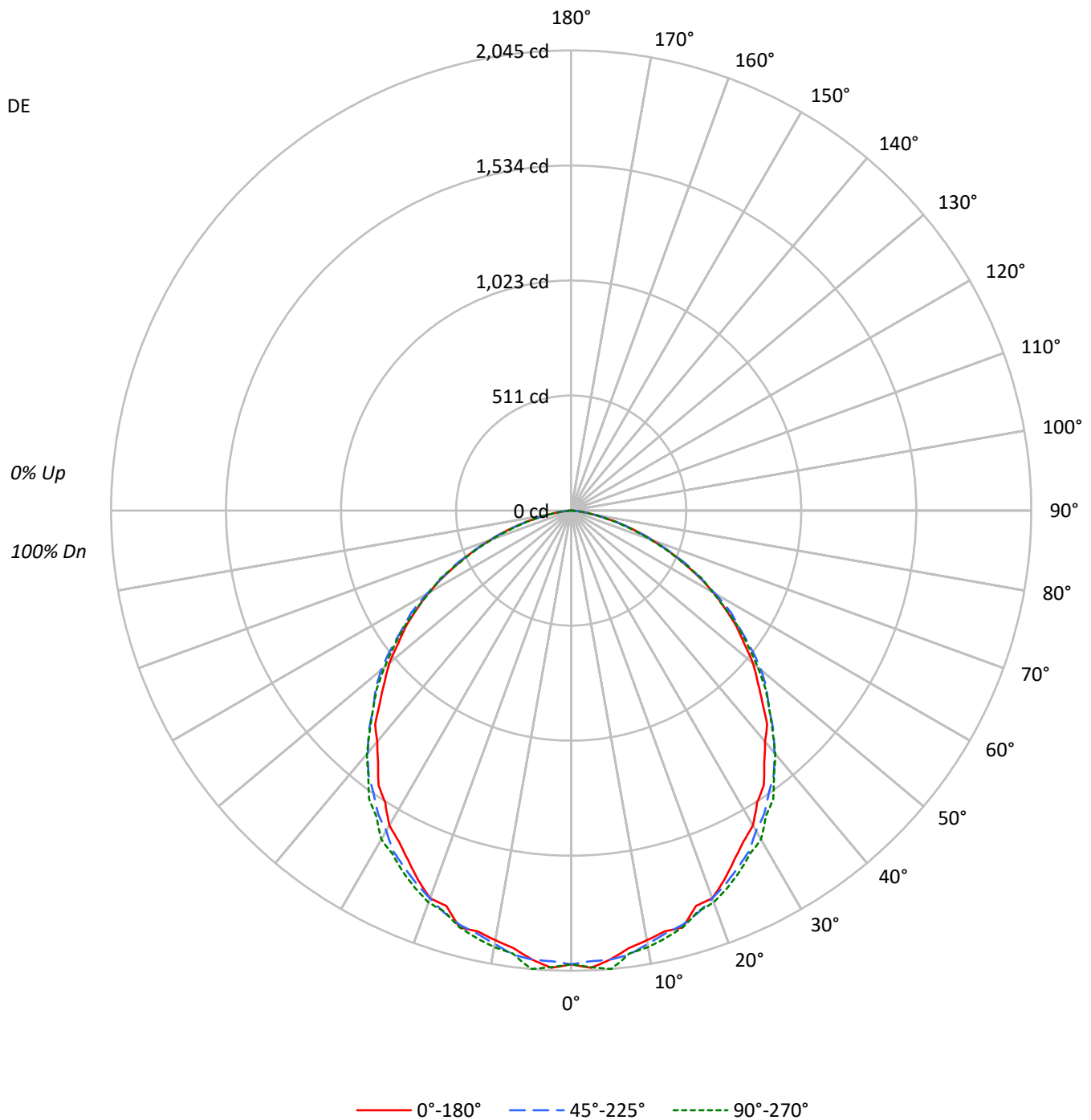
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5426	5426	5426
5°	5408	5410	5524
10°	5299	5345	5382
15°	5341	5311	5341
20°	5250	5250	5306
25°	5089	5200	5257
30°	5019	5107	5243
35°	4901	5029	5142
40°	4710	4937	4959
45°	4568	4730	4737
50°	4418	4617	4529
55°	4209	4291	4260
60°	3936	3975	3904
65°	3510	3599	3485
70°	3011	3021	2937
75°	2385	2379	2287
80°	1598	1553	1492
85°	868	861	803

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4852 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.7	3.7
10°-20°	537.6	10.6
20°-30°	805.4	15.8
30°-40°	954.5	18.8
40°-50°	956.3	18.8
50°-60°	811.7	16.0
60°-70°	547.3	10.8
70°-80°	240.5	4.7
80°-90°	39.1	0.8
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°	1532.6	30.2
0°-40°	2487.1	48.9
0°-60°	4255.2	83.7
0°-90°	5082.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5082.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2016	2016	2016	2016	2016	
5°	2002	1997	2003	1997	2045	189
15°	1917	1895	1906	1916	1917	534
25°	1714	1723	1751	1774	1771	792
35°	1492	1496	1531	1566	1565	926
45°	1200	1223	1243	1275	1245	928
55°	897	891	915	908	908	798
65°	551	544	565	544	547	548
75°	229	225	229	213	220	246
85°	28	27	28	27	26	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2016.4	2016.4	2016.4	2016.4	2016.4
2.5°	2033.9	2018.5	2004.2	2020.8	2031.0
5°	2002.1	1997.4	2002.9	1996.9	2045.0
7.5°	1961.0	1978.9	1989.3	1982.8	1985.7
10°	1939.1	1932.8	1956.0	1972.1	1969.8
12.5°	1915.7	1925.0	1926.3	1943.8	1945.3
15°	1917.0	1894.8	1906.5	1916.4	1917.2
17.5°	1842.5	1866.4	1874.5	1897.2	1869.1
20°	1833.4	1815.9	1833.4	1856.6	1852.9
22.5°	1777.4	1757.9	1795.4	1815.9	1814.6
25°	1713.9	1723.3	1751.4	1774.3	1770.6
27.5°	1658.2	1669.1	1709.2	1740.7	1720.4
30°	1615.2	1609.7	1643.6	1671.7	1687.3
32.5°	1538.4	1558.2	1597.8	1625.6	1610.8
35°	1491.8	1496.2	1530.9	1566.3	1565.2
37.5°	1410.3	1430.9	1479.6	1489.5	1480.3
40°	1340.8	1361.4	1405.4	1416.0	1411.6
42.5°	1289.5	1293.2	1330.9	1343.1	1323.6
45°	1200.2	1222.6	1242.9	1274.9	1244.7
47.5°	1124.2	1134.6	1178.3	1186.9	1171.1
50°	1055.2	1058.8	1102.8	1092.2	1081.8
52.5°	968.5	983.9	1008.6	1006.5	994.3
55°	897.2	891.2	914.6	908.4	908.1
57.5°	811.5	821.9	841.2	831.3	815.4
60°	731.3	731.6	738.6	727.4	725.3
62.5°	642.0	645.1	646.7	632.9	655.3
65°	551.2	543.9	565.2	543.6	547.3
67.5°	467.6	471.2	469.2	455.6	460.8
70°	382.7	387.4	384.0	368.7	373.3
72.5°	305.1	299.4	303.0	283.8	292.6
75°	229.4	224.7	228.8	212.7	220.0
77.5°	156.2	159.9	157.3	148.7	153.6
80°	103.1	100.2	100.2	95.3	96.3
82.5°	60.1	57.3	56.5	54.9	57.3
85°	28.1	27.3	27.9	27.1	26.0
87.5°	10.2	10.4	10.4	9.9	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)