

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: P590816

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590816
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-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 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: 5191.0 lumens
Efficiency: N/A
Efficacy: 110.9 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

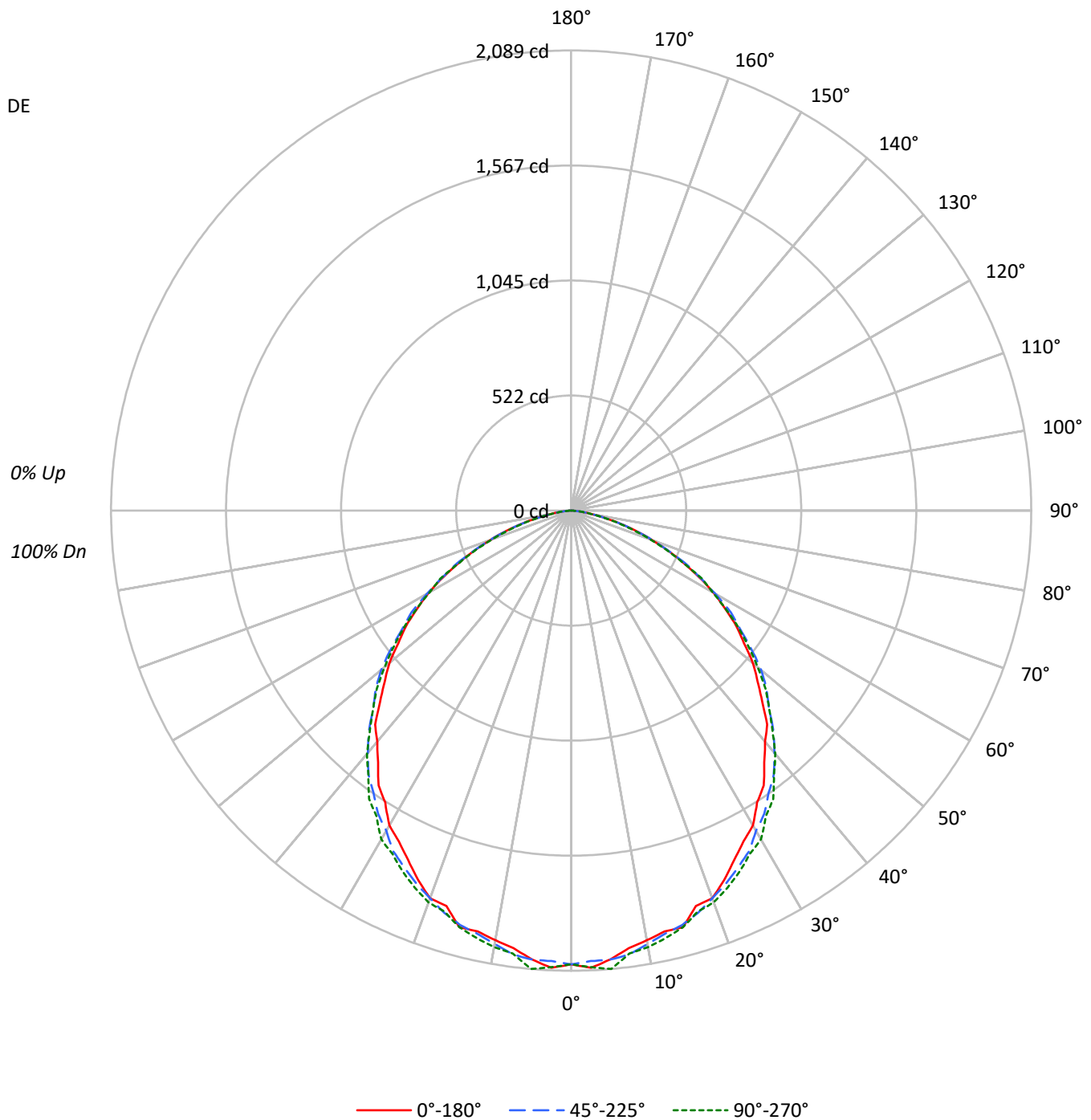
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5543	5543	5543
5°	5524	5526	5643
10°	5412	5460	5498
15°	5455	5425	5456
20°	5363	5363	5420
25°	5198	5312	5370
30°	5127	5216	5355
35°	5006	5137	5252
40°	4811	5043	5065
45°	4666	4832	4838
50°	4512	4716	4626
55°	4299	4383	4352
60°	4020	4061	3987
65°	3585	3676	3559
70°	3076	3087	3000
75°	2436	2431	2336
80°	1632	1587	1525
85°	886	880	821

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4956 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	3.7
10°-20°	549.1	10.6
20°-30°	822.6	15.8
30°-40°	975.0	18.8
40°-50°	976.8	18.8
50°-60°	829.1	16.0
60°-70°	559.0	10.8
70°-80°	245.6	4.7
80°-90°	39.9	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°	1565.5	30.2
0°-40°	2540.5	48.9
0°-60°	4346.4	83.7
0°-90°	5191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2060	2060	2060	2060	2060	
5°	2045	2040	2046	2040	2089	193
15°	1958	1936	1947	1958	1958	546
25°	1751	1760	1789	1812	1809	809
35°	1524	1528	1564	1600	1599	946
45°	1226	1249	1270	1302	1271	948
55°	916	910	934	928	928	815
65°	563	556	577	555	559	560
75°	234	230	234	217	225	251
85°	29	28	28	28	27	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2059.7	2059.7	2059.7	2059.7	2059.7
2.5°	2077.5	2061.8	2047.2	2064.2	2074.5
5°	2045.0	2040.2	2045.8	2039.7	2088.9
7.5°	2003.0	2021.4	2032.0	2025.4	2028.3
10°	1980.7	1974.3	1998.0	2014.4	2012.1
12.5°	1956.7	1966.3	1967.6	1985.5	1987.1
15°	1958.1	1935.5	1947.4	1957.5	1958.3
17.5°	1882.0	1906.5	1914.7	1937.9	1909.1
20°	1872.7	1854.9	1872.7	1896.4	1892.7
22.5°	1815.5	1795.6	1833.9	1854.9	1853.6
25°	1750.6	1760.2	1788.9	1812.3	1808.6
27.5°	1693.7	1704.9	1745.9	1778.0	1757.3
30°	1649.9	1644.3	1678.8	1707.6	1723.5
32.5°	1571.4	1591.6	1632.0	1660.5	1645.3
35°	1523.8	1528.3	1563.7	1599.9	1598.8
37.5°	1440.6	1461.6	1511.3	1521.4	1512.1
40°	1369.6	1390.6	1435.5	1446.4	1441.9
42.5°	1317.2	1320.9	1359.5	1372.0	1352.0
45°	1226.0	1248.8	1269.6	1302.3	1271.4
47.5°	1148.3	1158.9	1203.6	1212.4	1196.2
50°	1077.8	1081.6	1126.5	1115.6	1105.0
52.5°	989.3	1005.0	1030.2	1028.1	1015.6
55°	916.4	910.3	934.2	927.8	927.6
57.5°	828.9	839.6	859.2	849.1	832.9
60°	747.0	747.3	754.5	743.0	740.9
62.5°	655.8	659.0	660.6	646.5	669.4
65°	563.0	555.5	577.3	555.3	559.0
67.5°	477.6	481.3	479.2	465.4	470.7
70°	390.9	395.7	392.3	376.6	381.3
72.5°	311.7	305.8	309.5	289.9	298.9
75°	234.3	229.5	233.8	217.3	224.7
77.5°	159.6	163.3	160.6	151.8	156.9
80°	105.3	102.4	102.4	97.3	98.4
82.5°	61.4	58.5	57.7	56.1	58.5
85°	28.7	27.9	28.5	27.7	26.6
87.5°	10.4	10.6	10.6	10.1	9.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)