

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: P590817

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-81-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590817
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-81-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4675.0 lumens
Efficiency: N/A
Efficacy: 99.9 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

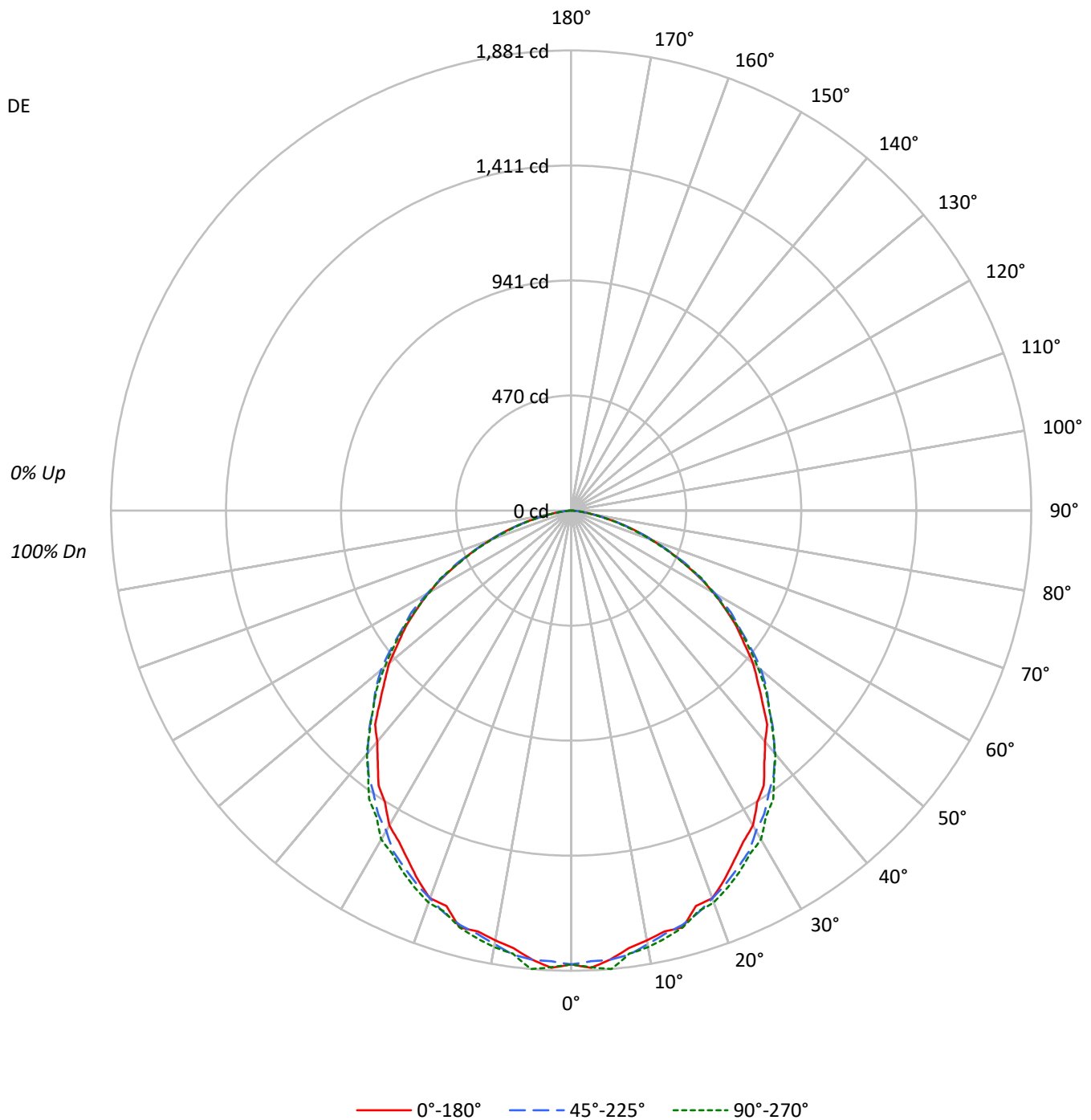
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	4991	4991	4991
5°	4975	4977	5082
10°	4874	4917	4952
15°	4913	4886	4914
20°	4830	4830	4881
25°	4681	4784	4836
30°	4617	4698	4823
35°	4508	4626	4730
40°	4333	4541	4562
45°	4202	4351	4357
50°	4064	4247	4166
55°	3872	3947	3919
60°	3621	3657	3591
65°	3228	3311	3205
70°	2770	2780	2702
75°	2194	2189	2104
80°	1469	1429	1373
85°	800	790	738

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4463 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.5	3.7
10°-20°	494.5	10.6
20°-30°	740.9	15.8
30°-40°	878.1	18.8
40°-50°	879.7	18.8
50°-60°	746.7	16.0
60°-70°	503.4	10.8
70°-80°	221.2	4.7
80°-90°	35.9	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°	1409.9	30.2
0°-40°	2288.0	48.9
0°-60°	3914.4	83.7
0°-90°	4675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4675.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1855	1855	1855	1855	1855	
5°	1842	1837	1842	1837	1881	174
15°	1763	1743	1754	1763	1764	491
25°	1577	1585	1611	1632	1629	729
35°	1372	1376	1408	1441	1440	852
45°	1104	1125	1143	1173	1145	854
55°	825	820	841	836	835	734
65°	507	500	520	500	503	504
75°	211	207	210	196	202	226
85°	26	25	26	25	24	37
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1854.9	1854.9	1854.9	1854.9	1854.9
2.5°	1871.0	1856.8	1843.7	1859.0	1868.3
5°	1841.7	1837.4	1842.5	1837.0	1881.3
7.5°	1803.9	1820.4	1830.0	1824.0	1826.7
10°	1783.8	1778.0	1799.4	1814.2	1812.1
12.5°	1762.2	1770.9	1772.1	1788.1	1789.5
15°	1763.4	1743.1	1753.9	1763.0	1763.7
17.5°	1694.9	1717.0	1724.4	1745.2	1719.4
20°	1686.6	1670.5	1686.6	1707.9	1704.5
22.5°	1635.1	1617.1	1651.6	1670.5	1669.3
25°	1576.6	1585.2	1611.1	1632.2	1628.8
27.5°	1525.4	1535.4	1572.3	1601.3	1582.6
30°	1485.9	1480.8	1512.0	1537.8	1552.2
32.5°	1415.2	1433.4	1469.8	1495.4	1481.8
35°	1372.3	1376.4	1408.3	1440.8	1439.9
37.5°	1297.4	1316.3	1361.1	1370.2	1361.8
40°	1233.4	1252.3	1292.8	1302.6	1298.6
42.5°	1186.2	1189.6	1224.3	1235.6	1217.6
45°	1104.1	1124.7	1143.4	1172.8	1145.0
47.5°	1034.2	1043.7	1084.0	1091.9	1077.3
50°	970.7	974.0	1014.5	1004.7	995.1
52.5°	890.9	905.1	927.8	925.9	914.6
55°	825.3	819.8	841.4	835.6	835.4
57.5°	746.5	756.1	773.8	764.7	750.1
60°	672.8	673.0	679.5	669.2	667.2
62.5°	590.6	593.5	594.9	582.2	602.8
65°	507.0	500.3	520.0	500.1	503.4
67.5°	430.1	433.5	431.6	419.1	423.9
70°	352.1	356.4	353.3	339.1	343.4
72.5°	280.7	275.4	278.8	261.1	269.2
75°	211.0	206.7	210.5	195.7	202.4
77.5°	143.7	147.1	144.7	136.8	141.3
80°	94.8	92.2	92.2	87.7	88.6
82.5°	55.3	52.7	52.0	50.5	52.7
85°	25.9	25.1	25.6	24.9	23.9
87.5°	9.3	9.6	9.6	9.1	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)