

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: P561998

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561998
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-24-4-LD4-1HI-35-UNV-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3636.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

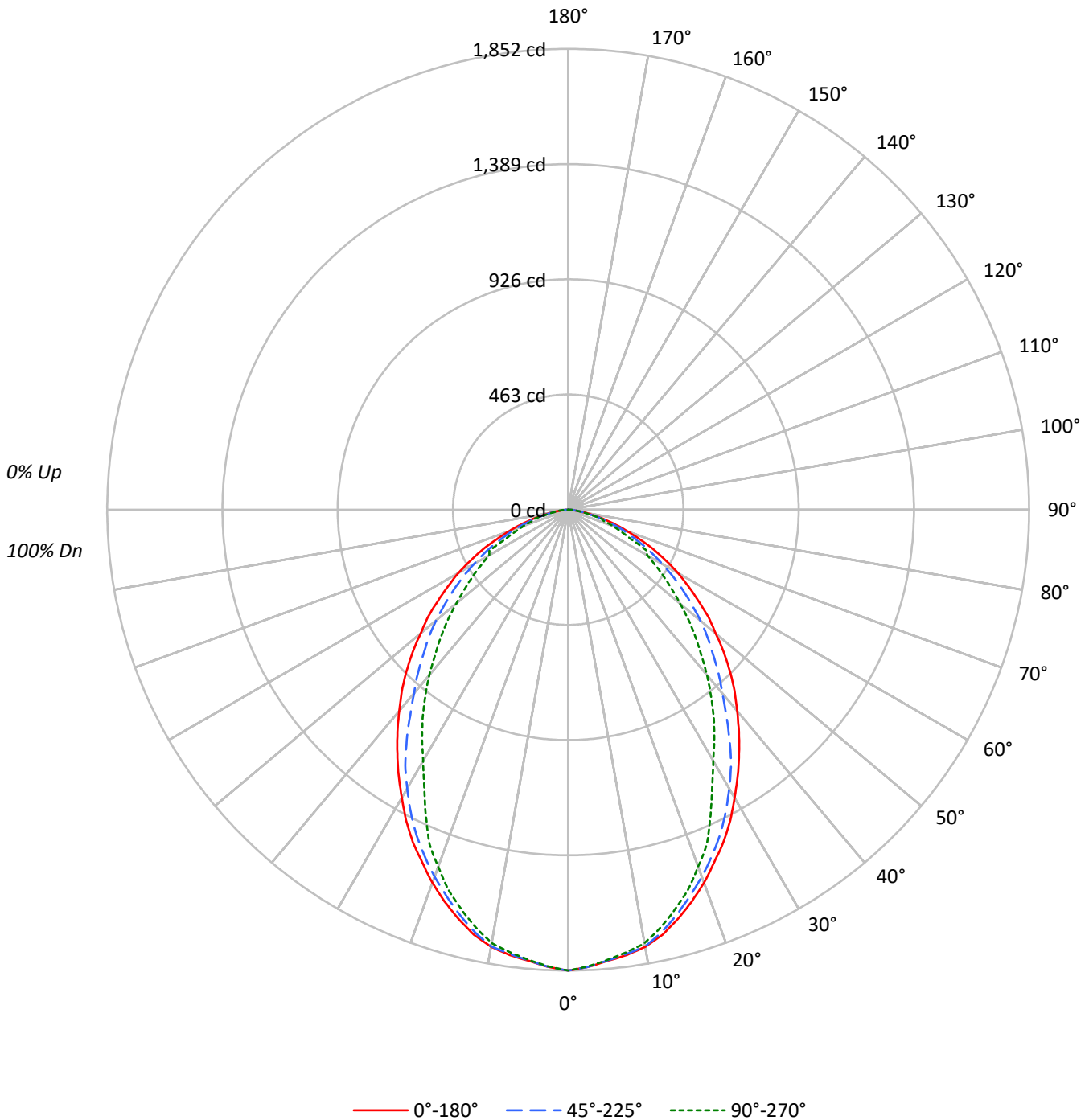
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561998

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-81-97-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561998

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-81-97-EDD-90

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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2492	2492	2492
5°	2458	2455	2452
10°	2437	2434	2416
15°	2371	2347	2315
20°	2284	2247	2186
25°	2190	2143	2009
30°	2076	2009	1810
35°	1966	1857	1674
40°	1854	1692	1523
45°	1748	1564	1377
50°	1618	1452	1228
55°	1497	1316	1100
60°	1371	1175	985
65°	1207	1029	873
70°	994	901	741
75°	790	690	724
80°	531	497	465
85°	330	397	463

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1748 cd/sqm



TEST NUMBER: P561998

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-81-97-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.4	4.7
10°-20°	473.2	13.0
20°-30°	655.1	18.0
30°-40°	698.5	19.2
40°-50°	637.2	17.5
50°-60°	499.2	13.7
60°-70°	325.4	8.9
70°-80°	144.1	4.0
80°-90°	31.0	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°	1300.6	35.8
0°-40°	1999.1	55.0
0°-60°	3135.5	86.2
0°-90°	3636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3636.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1852	1852	1852	1852	1852	
5°	1820	1818	1818	1816	1816	173
15°	1702	1702	1685	1668	1662	479
25°	1475	1467	1443	1392	1353	677
35°	1197	1188	1130	1045	1019	748
45°	919	899	822	754	724	708
55°	638	619	561	495	469	572
65°	379	358	323	330	274	374
75°	152	141	133	126	139	163
85°	21	24	26	28	30	30
90°	0	0	0	0	0	



TEST NUMBER: P561998

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-81-97-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1852.1	1852.1	1852.1	1852.1	1852.1
2.5°	1839.3	1839.3	1839.3	1837.1	1837.1
5°	1820.0	1817.9	1817.9	1815.7	1815.7
7.5°	1805.0	1802.9	1800.7	1798.6	1794.3
10°	1783.6	1783.6	1781.5	1770.8	1768.6
12.5°	1749.4	1747.2	1738.6	1723.7	1719.4
15°	1702.2	1702.2	1685.1	1668.0	1661.6
17.5°	1650.9	1648.7	1627.3	1610.2	1601.6
20°	1595.2	1590.9	1569.5	1541.7	1526.7
22.5°	1533.1	1533.1	1507.4	1471.0	1456.0
25°	1475.3	1466.7	1443.2	1391.8	1353.2
27.5°	1408.9	1396.1	1370.4	1297.6	1252.6
30°	1336.1	1329.7	1293.3	1199.1	1164.8
32.5°	1267.6	1256.9	1218.3	1119.8	1092.0
35°	1196.9	1188.4	1130.5	1044.9	1019.2
37.5°	1126.3	1115.6	1042.8	974.2	942.1
40°	1055.6	1042.8	963.5	901.4	867.2
42.5°	989.2	972.1	895.0	828.6	790.1
45°	918.6	899.3	822.2	753.7	723.7
47.5°	847.9	830.8	760.1	689.5	655.2
50°	773.0	758.0	693.7	623.1	586.7
52.5°	710.9	687.3	625.2	554.6	524.6
55°	638.1	618.8	561.0	494.6	468.9
57.5°	571.7	552.4	498.9	436.8	415.4
60°	509.6	481.8	436.8	383.3	366.1
62.5°	441.1	419.7	381.1	336.2	357.6
65°	379.0	357.6	323.3	329.7	274.1
67.5°	310.5	299.8	269.8	239.8	231.2
70°	252.7	239.8	229.1	197.0	188.4
72.5°	201.3	188.4	173.4	156.3	149.9
75°	152.0	141.3	132.8	126.3	139.2
77.5°	104.9	100.6	94.2	87.8	85.6
80°	68.5	66.4	64.2	62.1	60.0
82.5°	40.7	40.7	40.7	40.7	40.7
85°	21.4	23.6	25.7	27.8	30.0
87.5°	12.8	12.8	15.0	17.1	19.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)