

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: P562088

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562088
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-40-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3437.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

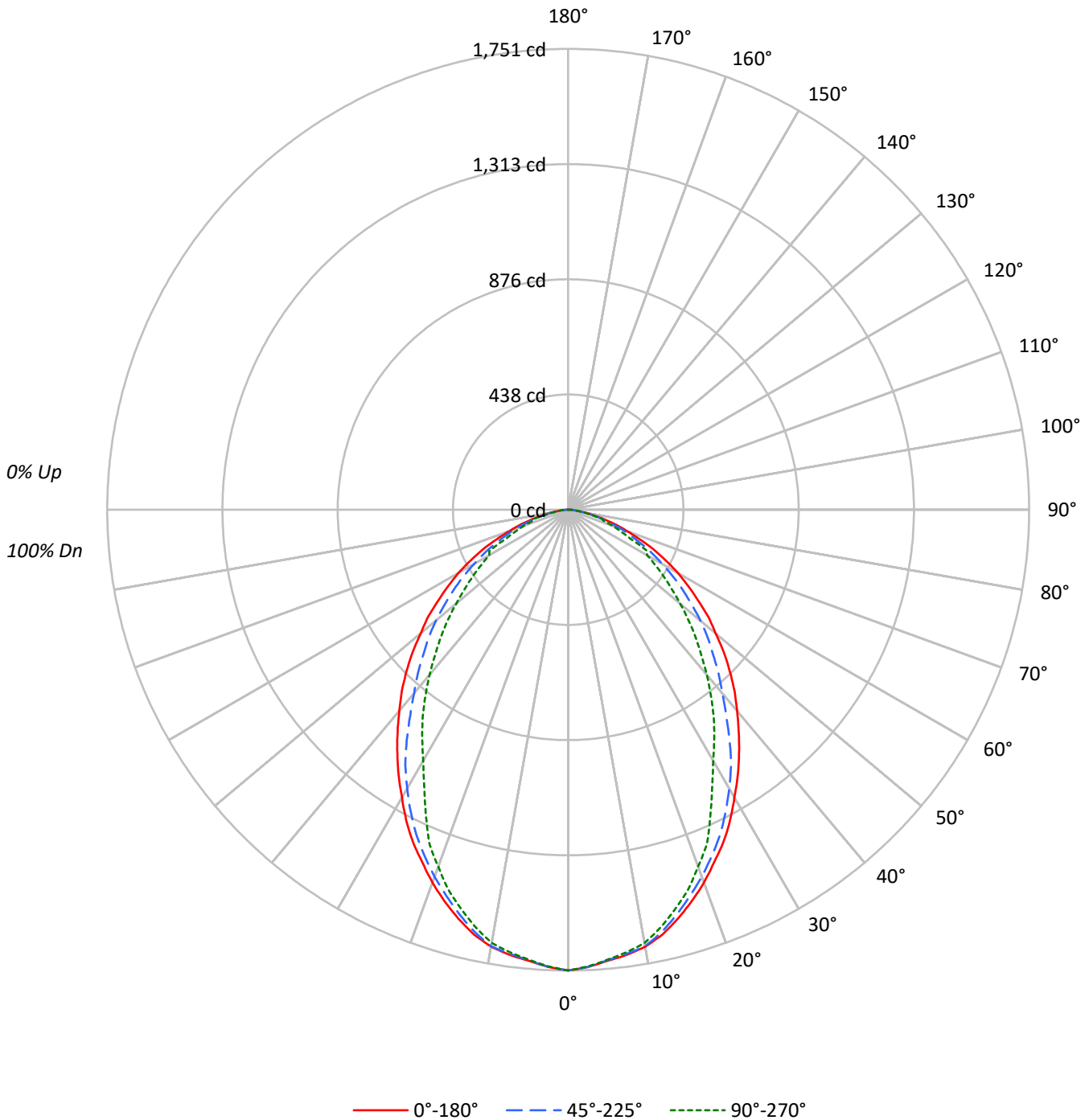
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P562088

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-93-88-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P562088

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-93-88-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°	2356	2356	2356
5°	2324	2321	2318
10°	2303	2301	2284
15°	2241	2219	2188
20°	2159	2124	2066
25°	2070	2025	1899
30°	1962	1899	1711
35°	1858	1755	1582
40°	1753	1600	1440
45°	1652	1479	1302
50°	1530	1373	1161
55°	1415	1244	1040
60°	1296	1111	931
65°	1140	973	825
70°	939	852	701
75°	747	652	684
80°	502	470	439
85°	312	375	437

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1652 cd/sqm



TEST NUMBER: P562088

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-93-88-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.0	4.7
10°-20°	447.3	13.0
20°-30°	619.2	18.0
30°-40°	660.3	19.2
40°-50°	602.3	17.5
50°-60°	471.9	13.7
60°-70°	307.6	8.9
70°-80°	136.3	4.0
80°-90°	29.3	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°	1229.4	35.8
0°-40°	1889.7	55.0
0°-60°	2963.9	86.2
0°-90°	3437.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1751	1751	1751	1751	1751	
5°	1720	1718	1718	1716	1716	163
15°	1609	1609	1593	1577	1571	452
25°	1394	1386	1364	1316	1279	640
35°	1131	1123	1069	988	963	707
45°	868	850	777	712	684	669
55°	603	585	530	468	443	541
65°	358	338	306	312	259	353
75°	144	134	126	119	132	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



TEST NUMBER: P562088

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-93-88-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1750.8	1750.8	1750.8	1750.8	1750.8
2.5°	1738.6	1738.6	1738.6	1736.6	1736.6
5°	1720.4	1718.4	1718.4	1716.4	1716.4
7.5°	1706.2	1704.2	1702.2	1700.2	1696.1
10°	1686.0	1686.0	1684.0	1673.8	1671.8
12.5°	1653.6	1651.6	1643.5	1629.3	1625.3
15°	1609.1	1609.1	1592.9	1576.7	1570.6
17.5°	1560.5	1558.5	1538.2	1522.0	1514.0
20°	1507.9	1503.8	1483.6	1457.3	1443.1
22.5°	1449.2	1449.2	1424.9	1390.5	1376.3
25°	1394.5	1386.4	1364.2	1315.6	1279.2
27.5°	1331.8	1319.6	1295.4	1226.5	1184.0
30°	1263.0	1256.9	1222.5	1133.4	1101.1
32.5°	1198.2	1188.1	1151.7	1058.6	1032.2
35°	1131.4	1123.3	1068.7	987.7	963.4
37.5°	1064.6	1054.5	985.7	920.9	890.6
40°	997.8	985.7	910.8	852.1	819.7
42.5°	935.1	918.9	846.0	783.3	746.9
45°	868.3	850.1	777.2	712.4	684.1
47.5°	801.5	785.3	718.5	651.7	619.3
50°	730.7	716.5	655.8	589.0	554.6
52.5°	672.0	649.7	591.0	524.2	495.9
55°	603.2	584.9	530.3	467.5	443.3
57.5°	540.4	522.2	471.6	412.9	392.7
60°	481.7	455.4	412.9	362.3	346.1
62.5°	416.9	396.7	360.3	317.8	338.0
65°	358.2	338.0	305.6	311.7	259.1
67.5°	293.5	283.4	255.0	226.7	218.6
70°	238.8	226.7	216.6	186.2	178.1
72.5°	190.3	178.1	163.9	147.8	141.7
75°	143.7	133.6	125.5	119.4	131.6
77.5°	99.2	95.1	89.1	83.0	81.0
80°	64.8	62.7	60.7	58.7	56.7
82.5°	38.5	38.5	38.5	38.5	38.5
85°	20.2	22.3	24.3	26.3	28.3
87.5°	12.1	12.1	14.2	16.2	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)