

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: P561252

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561252
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-12-4-LD4-1STD-40-UNV-93-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2737.0 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

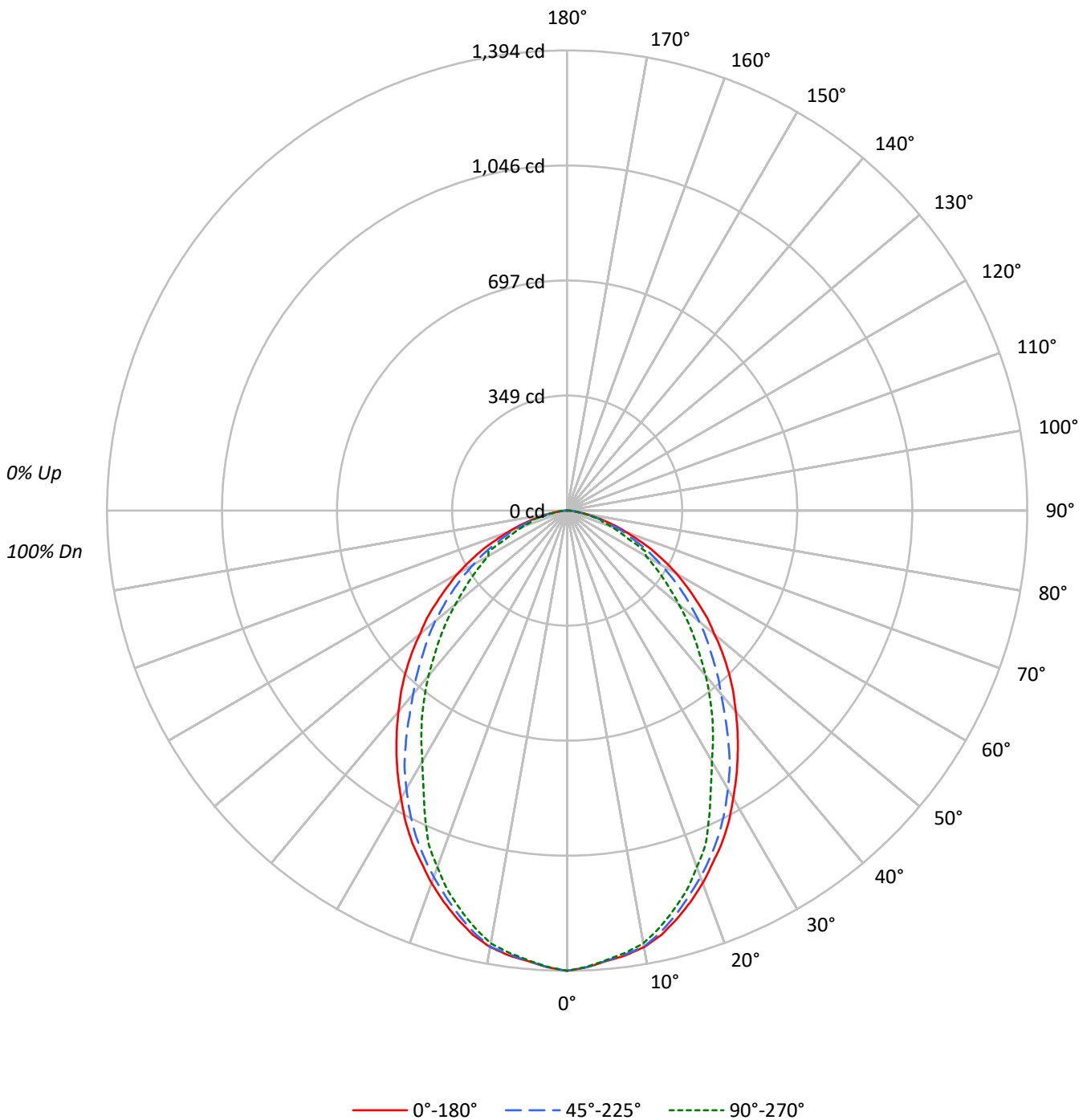
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561252

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-93-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561252

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-93-86-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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3752	3752	3752
5°	3701	3696	3692
10°	3669	3664	3638
15°	3570	3534	3484
20°	3439	3383	3291
25°	3297	3225	3024
30°	3125	3025	2724
35°	2960	2796	2520
40°	2791	2548	2293
45°	2632	2355	2073
50°	2436	2186	1849
55°	2253	1981	1656
60°	2065	1770	1483
65°	1817	1550	1314
70°	1496	1357	1116
75°	1189	1039	1090
80°	800	750	699
85°	497	596	698

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2632 cd/sqm



TEST NUMBER: P561252

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-93-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	4.7
10°-20°	356.2	13.0
20°-30°	493.1	18.0
30°-40°	525.8	19.2
40°-50°	479.7	17.5
50°-60°	375.8	13.7
60°-70°	244.9	8.9
70°-80°	108.5	4.0
80°-90°	23.3	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°	979.0	35.8
0°-40°	1504.8	55.0
0°-60°	2360.3	86.2
0°-90°	2737.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2737.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1394	1394	1394	1394	1394	
5°	1370	1368	1368	1367	1367	130
15°	1281	1281	1268	1256	1251	360
25°	1110	1104	1086	1048	1019	510
35°	901	894	851	786	767	563
45°	692	677	619	567	545	533
55°	480	466	422	372	353	431
65°	285	269	243	248	206	281
75°	114	106	100	95	105	123
85°	16	18	19	21	23	22
90°	0	0	0	0	0	



TEST NUMBER: P561252

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-93-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1394.2	1394.2	1394.2	1394.2	1394.2
2.5°	1384.5	1384.5	1384.5	1382.9	1382.9
5°	1370.0	1368.4	1368.4	1366.8	1366.8
7.5°	1358.7	1357.1	1355.5	1353.9	1350.7
10°	1342.6	1342.6	1341.0	1332.9	1331.3
12.5°	1316.8	1315.2	1308.8	1297.5	1294.3
15°	1281.4	1281.4	1268.5	1255.6	1250.7
17.5°	1242.7	1241.1	1225.0	1212.1	1205.6
20°	1200.8	1197.6	1181.4	1160.5	1149.2
22.5°	1154.0	1154.0	1134.7	1107.3	1096.0
25°	1110.5	1104.1	1086.3	1047.7	1018.6
27.5°	1060.6	1050.9	1031.5	976.7	942.9
30°	1005.8	1000.9	973.5	902.6	876.8
32.5°	954.2	946.1	917.1	843.0	822.0
35°	901.0	894.5	851.0	786.5	767.2
37.5°	847.8	839.7	784.9	733.4	709.2
40°	794.6	784.9	725.3	678.6	652.8
42.5°	744.6	731.7	673.7	623.8	594.7
45°	691.5	676.9	618.9	567.3	544.8
47.5°	638.3	625.4	572.2	519.0	493.2
50°	581.9	570.6	522.2	469.0	441.6
52.5°	535.1	517.4	470.6	417.5	394.9
55°	480.3	465.8	422.3	372.3	353.0
57.5°	430.3	415.8	375.5	328.8	312.7
60°	383.6	362.7	328.8	288.5	275.6
62.5°	332.0	315.9	286.9	253.0	269.2
65°	285.3	269.2	243.4	248.2	206.3
67.5°	233.7	225.6	203.1	180.5	174.1
70°	190.2	180.5	172.5	148.3	141.8
72.5°	151.5	141.8	130.6	117.7	112.8
75°	114.4	106.4	99.9	95.1	104.8
77.5°	79.0	75.8	70.9	66.1	64.5
80°	51.6	50.0	48.4	46.7	45.1
82.5°	30.6	30.6	30.6	30.6	30.6
85°	16.1	17.7	19.3	21.0	22.6
87.5°	9.7	9.7	11.3	12.9	14.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)