

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: P561598

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561598
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-LD4-2LO-40-UNV-80-97-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4023.0 lumens
Efficiency: N/A
Efficacy: 86.0 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

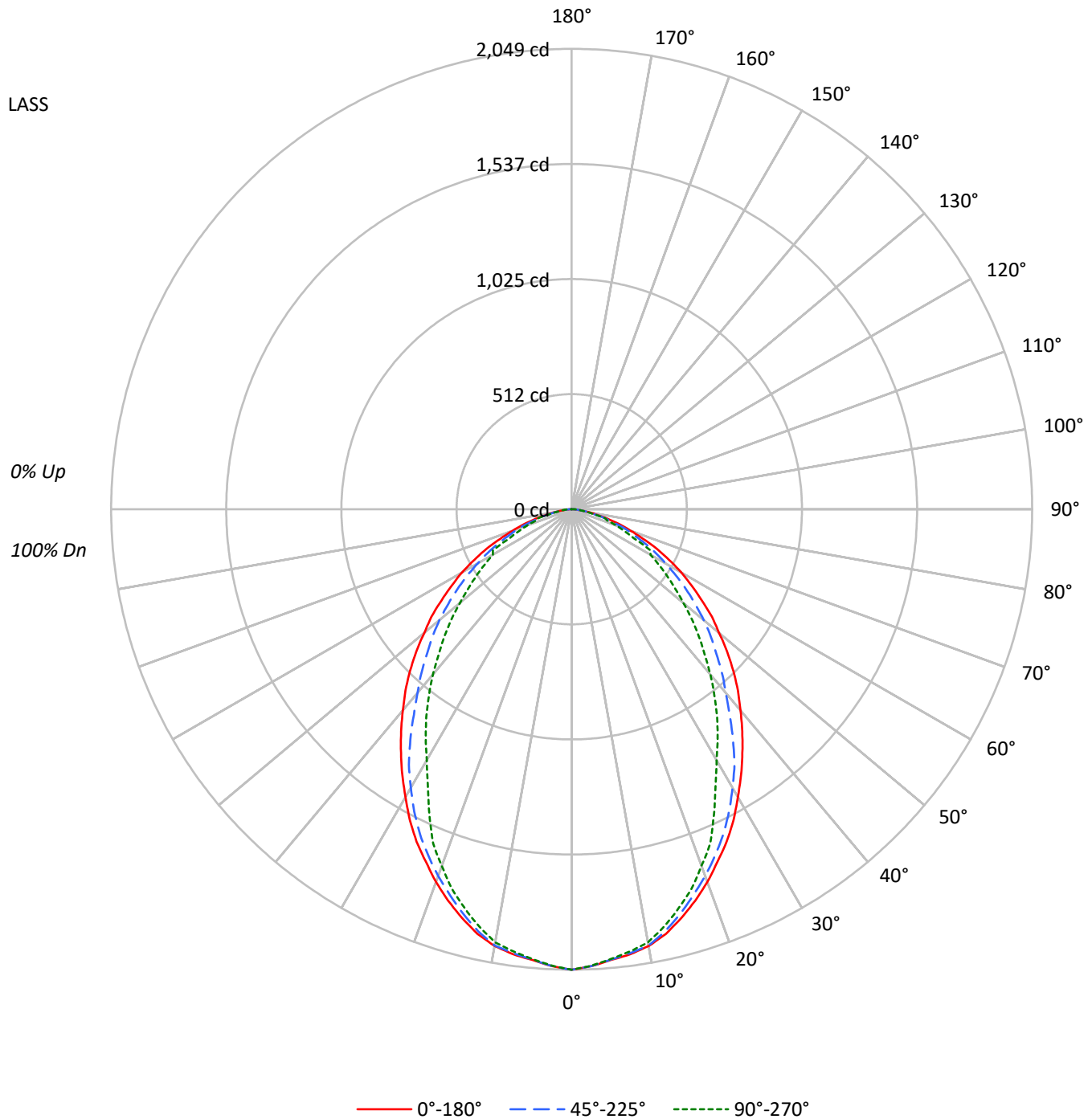
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561598

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-80-97-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561598

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-80-97-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	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°	5515	5515	5515
5°	5440	5433	5427
10°	5393	5386	5347
15°	5247	5194	5122
20°	5054	4973	4837
25°	4847	4741	4446
30°	4593	4446	4005
35°	4350	4109	3705
40°	4103	3745	3371
45°	3868	3462	3048
50°	3580	3213	2717
55°	3312	2912	2434
60°	3034	2601	2180
65°	2670	2278	1931
70°	2200	1995	1640
75°	1749	1527	1601
80°	1175	1102	1027
85°	732	877	1025

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3868 cd/sqm



TEST NUMBER: P561598

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-80-97-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.8	4.7
10°-20°	523.5	13.0
20°-30°	724.8	18.0
30°-40°	772.8	19.2
40°-50°	705.0	17.5
50°-60°	552.3	13.7
60°-70°	360.0	8.9
70°-80°	159.5	4.0
80°-90°	34.2	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°	1439.1	35.8
0°-40°	2211.9	55.0
0°-60°	3469.3	86.2
0°-90°	4023.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4023.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2049	2049	2049	2049	2049	
5°	2014	2011	2011	2009	2009	191
15°	1883	1883	1864	1846	1838	529
25°	1632	1623	1597	1540	1497	749
35°	1324	1315	1251	1156	1128	828
45°	1016	995	910	834	801	783
55°	706	685	621	547	519	633
65°	419	396	358	365	303	413
75°	168	156	147	140	154	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



TEST NUMBER: P561598

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-80-97-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2049.3	2049.3	2049.3	2049.3	2049.3
2.5°	2035.0	2035.0	2035.0	2032.7	2032.7
5°	2013.7	2011.4	2011.4	2009.0	2009.0
7.5°	1997.1	1994.8	1992.4	1990.0	1985.3
10°	1973.5	1973.5	1971.1	1959.2	1956.9
12.5°	1935.5	1933.2	1923.7	1907.1	1902.4
15°	1883.4	1883.4	1864.5	1845.5	1838.4
17.5°	1826.6	1824.2	1800.5	1781.6	1772.1
20°	1765.0	1760.2	1736.5	1705.7	1689.2
22.5°	1696.3	1696.3	1667.8	1627.6	1611.0
25°	1632.3	1622.8	1596.8	1539.9	1497.3
27.5°	1558.9	1544.6	1516.2	1435.7	1385.9
30°	1478.3	1471.2	1430.9	1326.7	1288.8
32.5°	1402.5	1390.7	1348.0	1239.0	1208.2
35°	1324.3	1314.8	1250.9	1156.1	1127.7
37.5°	1246.1	1234.3	1153.7	1077.9	1042.4
40°	1168.0	1153.7	1066.1	997.4	959.5
42.5°	1094.5	1075.6	990.3	916.8	874.2
45°	1016.3	995.0	909.7	833.9	800.8
47.5°	938.2	919.2	841.0	762.8	724.9
50°	855.2	838.7	767.6	689.4	649.1
52.5°	786.5	760.5	691.8	613.6	580.4
55°	706.0	684.7	620.7	547.3	518.8
57.5°	632.5	611.2	552.0	483.3	459.6
60°	563.8	533.0	483.3	424.1	405.1
62.5°	488.0	464.3	421.7	371.9	395.6
65°	419.3	395.6	357.7	364.8	303.2
67.5°	343.5	331.7	298.5	265.3	255.9
70°	279.6	265.3	253.5	218.0	208.5
72.5°	222.7	208.5	191.9	172.9	165.8
75°	168.2	156.4	146.9	139.8	154.0
77.5°	116.1	111.3	104.2	97.1	94.8
80°	75.8	73.4	71.1	68.7	66.3
82.5°	45.0	45.0	45.0	45.0	45.0
85°	23.7	26.1	28.4	30.8	33.2
87.5°	14.2	14.2	16.6	19.0	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)