

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: P561636

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561636
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-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: 4088.0 lumens
Efficiency: N/A
Efficacy: 87.3 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

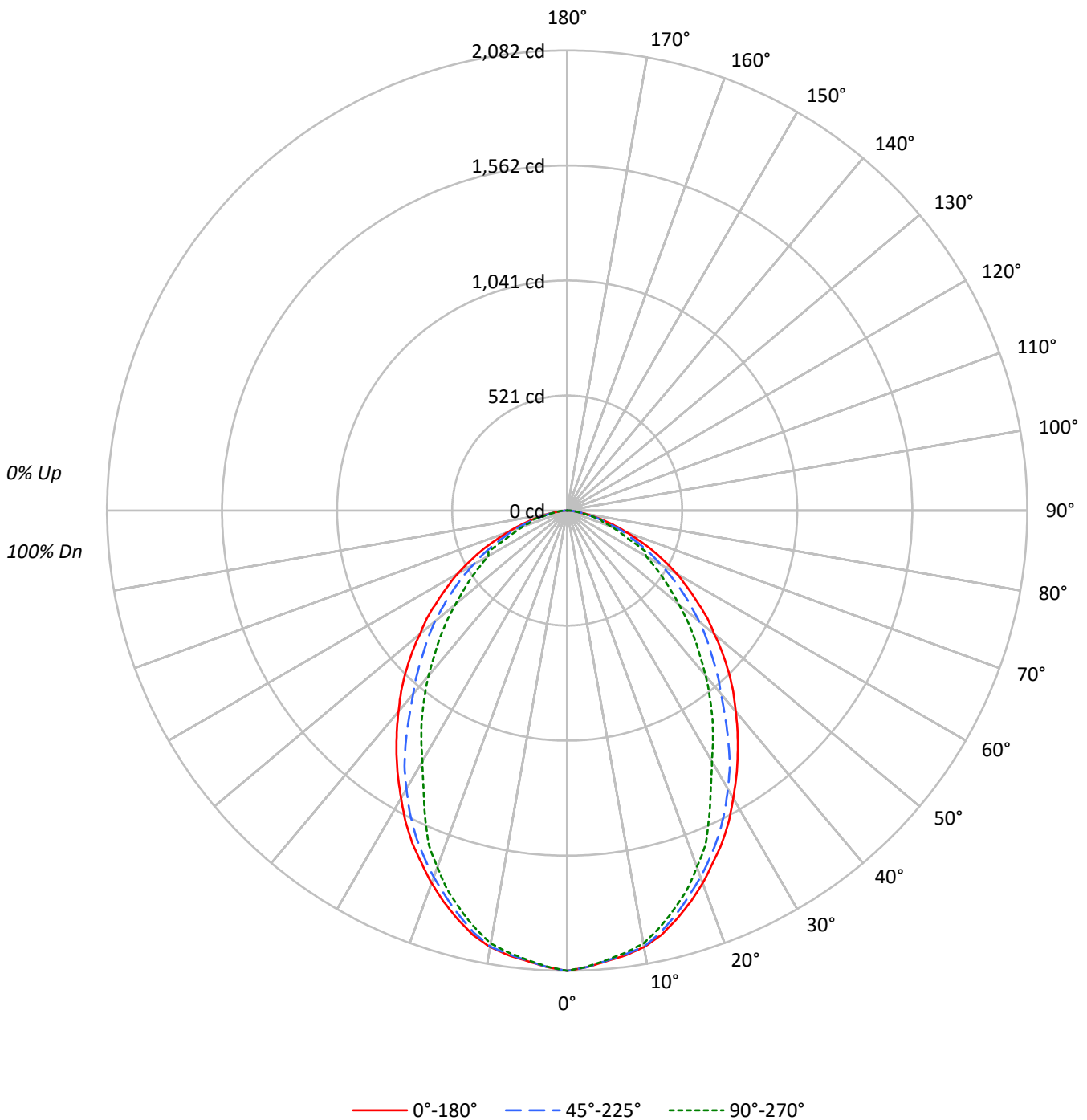
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561636

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-93-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561636

CATALOG NUMBER: FSR-12-4-LD4-2LO-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				
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°	5604	5604	5604
5°	5528	5521	5514
10°	5479	5473	5434
15°	5332	5278	5204
20°	5136	5053	4916
25°	4925	4818	4518
30°	4668	4518	4069
35°	4421	4176	3764
40°	4169	3805	3425
45°	3930	3518	3097
50°	3638	3265	2761
55°	3366	2959	2473
60°	3084	2643	2216
65°	2713	2315	1962
70°	2235	2027	1666
75°	1777	1552	1627
80°	1193	1119	1044
85°	744	892	1041

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3930 cd/sqm



TEST NUMBER: P561636

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-93-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.8	4.7
10°-20°	532.0	13.0
20°-30°	736.5	18.0
30°-40°	785.3	19.2
40°-50°	716.4	17.5
50°-60°	561.3	13.7
60°-70°	365.8	8.9
70°-80°	162.1	4.0
80°-90°	34.8	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°	1462.3	35.8
0°-40°	2247.6	55.0
0°-60°	3525.3	86.2
0°-90°	4088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4088.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2082	2082	2082	2082	2082	
5°	2046	2044	2044	2041	2041	194
15°	1914	1914	1895	1875	1868	538
25°	1659	1649	1623	1565	1522	761
35°	1346	1336	1271	1175	1146	841
45°	1033	1011	924	847	814	796
55°	717	696	631	556	527	643
65°	426	402	364	371	308	420
75°	171	159	149	142	156	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



TEST NUMBER: P561636

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-93-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2082.4	2082.4	2082.4	2082.4	2082.4
2.5°	2067.9	2067.9	2067.9	2065.5	2065.5
5°	2046.3	2043.9	2043.9	2041.4	2041.4
7.5°	2029.4	2027.0	2024.6	2022.2	2017.4
10°	2005.3	2005.3	2002.9	1990.9	1988.5
12.5°	1966.8	1964.4	1954.8	1937.9	1933.1
15°	1913.9	1913.9	1894.6	1875.3	1868.1
17.5°	1856.1	1853.7	1829.6	1810.3	1800.7
20°	1793.5	1788.7	1764.6	1733.3	1716.5
22.5°	1723.7	1723.7	1694.8	1653.9	1637.0
25°	1658.7	1649.0	1622.6	1564.8	1521.5
27.5°	1584.0	1569.6	1540.7	1458.9	1408.3
30°	1502.2	1495.0	1454.0	1348.1	1309.6
32.5°	1425.2	1413.1	1369.8	1259.1	1227.8
35°	1345.7	1336.1	1271.1	1174.8	1145.9
37.5°	1266.3	1254.2	1172.4	1095.4	1059.2
40°	1186.8	1172.4	1083.3	1013.5	975.0
42.5°	1112.2	1092.9	1006.3	931.7	888.3
45°	1032.8	1011.1	924.4	847.4	813.7
47.5°	953.3	934.1	854.6	775.2	736.7
50°	869.1	852.2	780.0	700.5	659.6
52.5°	799.2	772.8	703.0	623.5	589.8
55°	717.4	695.7	630.7	556.1	527.2
57.5°	642.8	621.1	560.9	491.1	467.0
60°	573.0	541.7	491.1	430.9	411.7
62.5°	495.9	471.8	428.5	378.0	402.0
65°	426.1	402.0	363.5	370.7	308.1
67.5°	349.1	337.0	303.3	269.6	260.0
70°	284.1	269.6	257.6	221.5	211.8
72.5°	226.3	211.8	195.0	175.7	168.5
75°	170.9	158.9	149.3	142.0	156.5
77.5°	118.0	113.1	105.9	98.7	96.3
80°	77.0	74.6	72.2	69.8	67.4
82.5°	45.7	45.7	45.7	45.7	45.7
85°	24.1	26.5	28.9	31.3	33.7
87.5°	14.4	14.4	16.9	19.3	21.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)