

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: P561056

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561056
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-LD4-1LO-40-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2109.0 lumens
Efficiency: N/A
Efficacy: 90.1 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

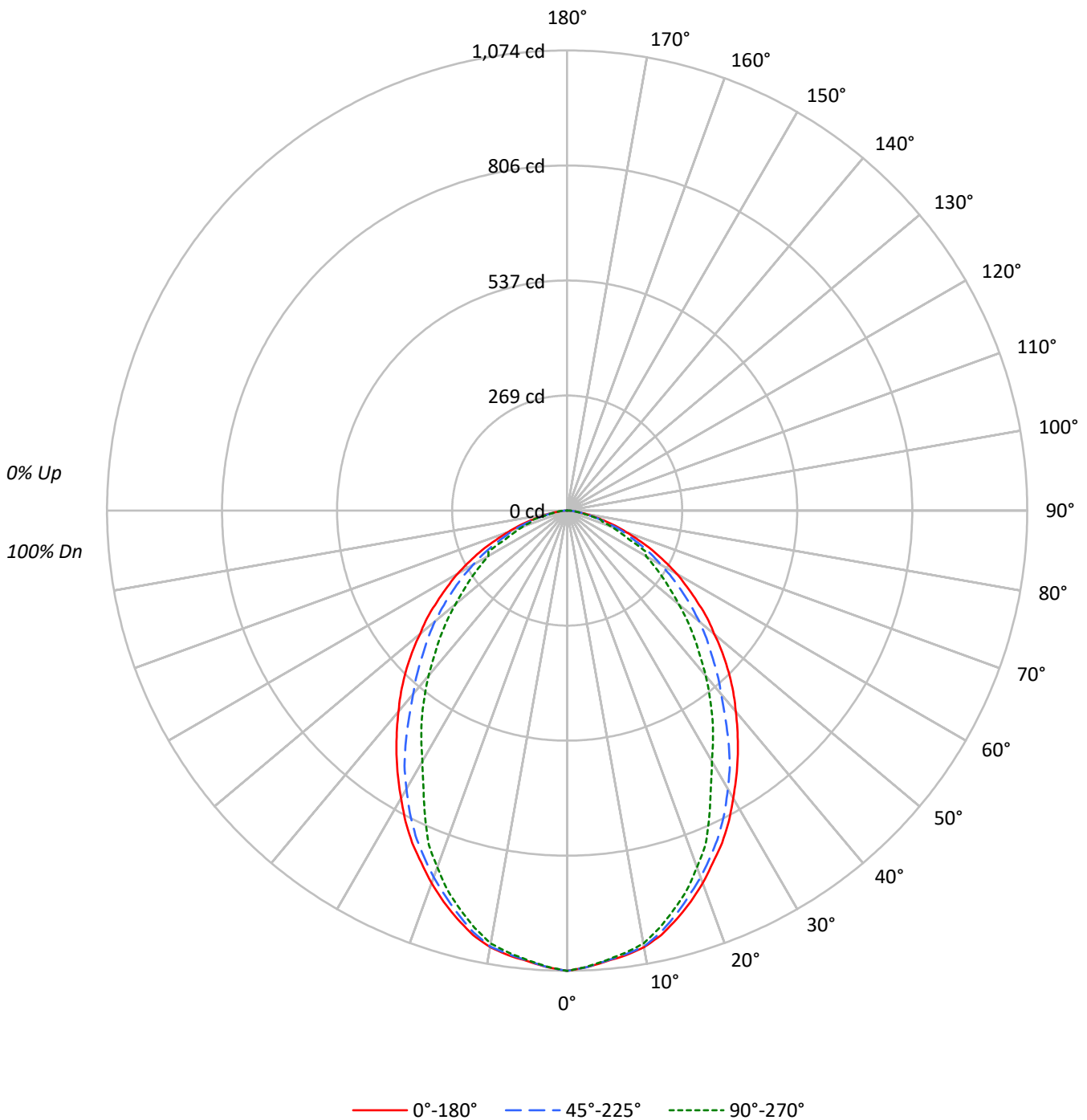
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561056

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561056

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-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°	2891	2891	2891
5°	2852	2848	2845
10°	2827	2823	2803
15°	2751	2723	2685
20°	2650	2607	2536
25°	2541	2485	2330
30°	2408	2331	2099
35°	2281	2154	1942
40°	2151	1963	1767
45°	2028	1815	1598
50°	1877	1685	1425
55°	1736	1527	1276
60°	1591	1364	1143
65°	1400	1194	1012
70°	1153	1046	860
75°	917	801	839
80°	615	578	539
85°	383	460	537

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2028 cd/sqm



TEST NUMBER: P561056

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.0	4.7
10°-20°	274.5	13.0
20°-30°	380.0	18.0
30°-40°	405.1	19.2
40°-50°	369.6	17.5
50°-60°	289.6	13.7
60°-70°	188.7	8.9
70°-80°	83.6	4.0
80°-90°	18.0	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°	754.4	35.8
0°-40°	1159.6	55.0
0°-60°	1818.7	86.2
0°-90°	2109.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2109.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1074	1074	1074	1074	1074	
5°	1056	1054	1054	1053	1053	100
15°	987	987	977	968	964	278
25°	856	851	837	807	785	393
35°	694	689	656	606	591	434
45°	533	522	477	437	420	410
55°	370	359	325	287	272	332
65°	220	207	188	191	159	217
75°	88	82	77	73	81	95
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



TEST NUMBER: P561056

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1074.3	1074.3	1074.3	1074.3	1074.3
2.5°	1066.8	1066.8	1066.8	1065.6	1065.6
5°	1055.7	1054.4	1054.4	1053.2	1053.2
7.5°	1047.0	1045.7	1044.5	1043.2	1040.8
10°	1034.6	1034.6	1033.3	1027.1	1025.9
12.5°	1014.7	1013.4	1008.5	999.8	997.3
15°	987.4	987.4	977.4	967.5	963.8
17.5°	957.6	956.3	943.9	934.0	929.0
20°	925.3	922.8	910.4	894.2	885.5
22.5°	889.2	889.2	874.3	853.2	844.5
25°	855.7	850.7	837.1	807.3	784.9
27.5°	817.2	809.8	794.9	752.6	726.5
30°	775.0	771.3	750.1	695.5	675.6
32.5°	735.2	729.0	706.7	649.5	633.4
35°	694.3	689.3	655.8	606.1	591.2
37.5°	653.3	647.1	604.8	565.1	546.5
40°	612.3	604.8	558.9	522.9	503.0
42.5°	573.8	563.9	519.1	480.6	458.3
45°	532.8	521.6	476.9	437.2	419.8
47.5°	491.8	481.9	440.9	399.9	380.0
50°	448.3	439.7	402.4	361.4	340.3
52.5°	412.3	398.7	362.7	321.7	304.3
55°	370.1	358.9	325.4	286.9	272.0
57.5°	331.6	320.4	289.4	253.4	240.9
60°	295.6	279.4	253.4	222.3	212.4
62.5°	255.8	243.4	221.1	195.0	207.4
65°	219.8	207.4	187.5	191.3	159.0
67.5°	180.1	173.9	156.5	139.1	134.1
70°	146.6	139.1	132.9	114.3	109.3
72.5°	116.7	109.3	100.6	90.7	86.9
75°	88.2	82.0	77.0	73.3	80.7
77.5°	60.9	58.4	54.6	50.9	49.7
80°	39.7	38.5	37.3	36.0	34.8
82.5°	23.6	23.6	23.6	23.6	23.6
85°	12.4	13.7	14.9	16.1	17.4
87.5°	7.5	7.5	8.7	9.9	11.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)