

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: P561068

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561068
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-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2091.0 lumens
Efficiency: N/A
Efficacy: 89.4 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

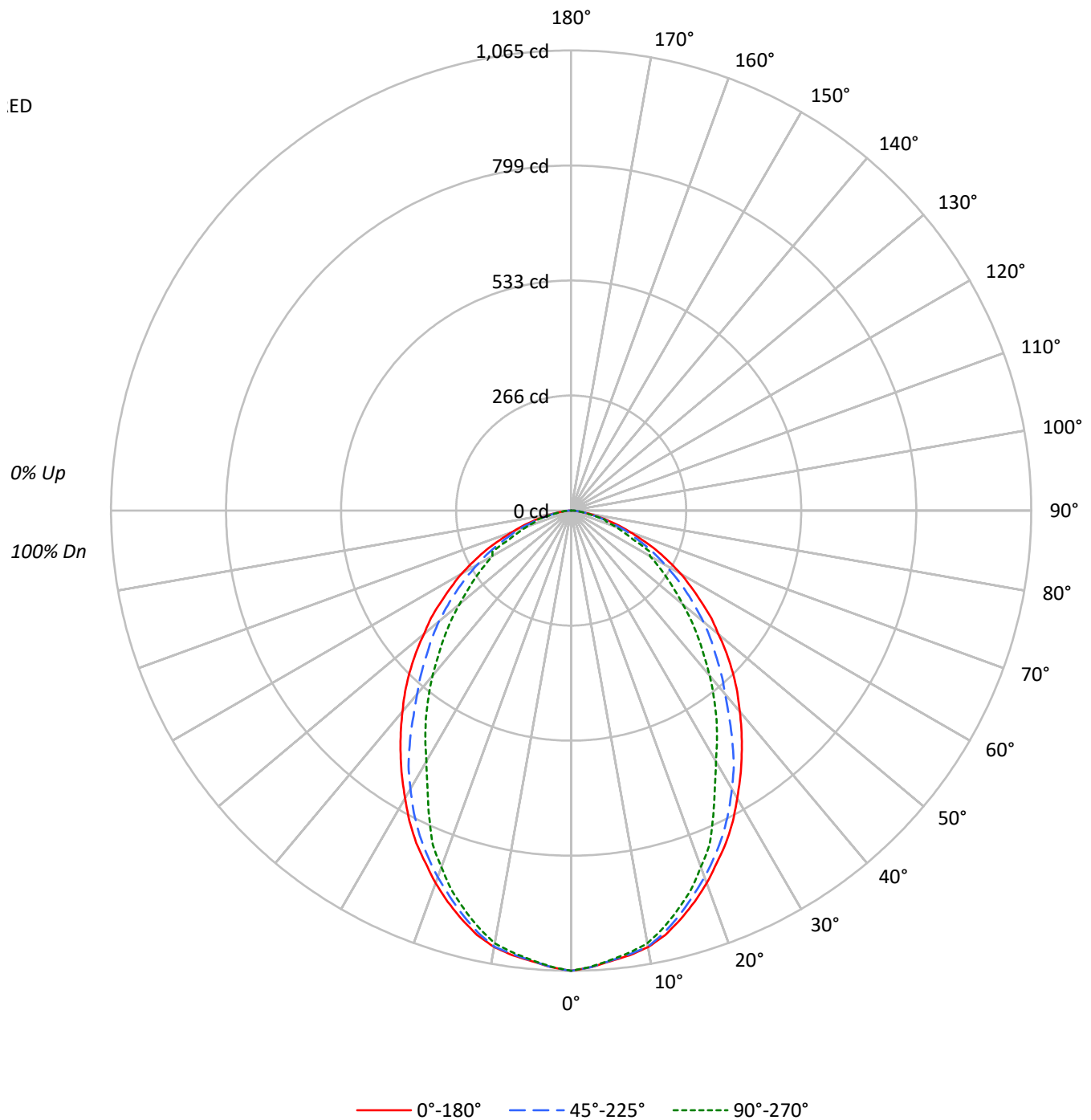
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561068

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-96-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561068

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-96-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	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°	2866	2866	2866
5°	2827	2824	2821
10°	2803	2799	2779
15°	2727	2700	2662
20°	2627	2585	2514
25°	2519	2464	2311
30°	2388	2311	2082
35°	2261	2136	1925
40°	2133	1946	1752
45°	2011	1799	1584
50°	1861	1670	1412
55°	1721	1514	1265
60°	1577	1352	1133
65°	1388	1184	1004
70°	1143	1037	853
75°	909	793	832
80°	611	572	535
85°	380	457	531

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2011 cd/sqm



TEST NUMBER: P561068

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-96-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.1	4.7
10°-20°	272.1	13.0
20°-30°	376.7	18.0
30°-40°	401.7	19.2
40°-50°	366.5	17.5
50°-60°	287.1	13.7
60°-70°	187.1	8.9
70°-80°	82.9	4.0
80°-90°	17.8	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°	748.0	35.8
0°-40°	1149.7	55.0
0°-60°	1803.2	86.2
0°-90°	2091.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2091.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1065	1065	1065	1065	1065	
5°	1047	1045	1045	1044	1044	99
15°	979	979	969	959	956	275
25°	848	844	830	800	778	390
35°	688	683	650	601	586	430
45°	528	517	473	433	416	407
55°	367	356	323	284	270	329
65°	218	206	186	190	158	215
75°	87	81	76	73	80	94
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



TEST NUMBER: P561068

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-96-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1065.1	1065.1	1065.1	1065.1	1065.1
2.5°	1057.7	1057.7	1057.7	1056.5	1056.5
5°	1046.7	1045.4	1045.4	1044.2	1044.2
7.5°	1038.0	1036.8	1035.6	1034.3	1031.9
10°	1025.7	1025.7	1024.5	1018.3	1017.1
12.5°	1006.0	1004.8	999.9	991.2	988.8
15°	978.9	978.9	969.1	959.2	955.5
17.5°	949.4	948.1	935.8	926.0	921.1
20°	917.4	914.9	902.6	886.6	878.0
22.5°	881.7	881.7	866.9	845.9	837.3
25°	848.4	843.5	829.9	800.4	778.2
27.5°	810.2	802.8	788.1	746.2	720.3
30°	768.4	764.7	743.7	689.6	669.9
32.5°	729.0	722.8	700.6	644.0	628.0
35°	688.3	683.4	650.2	600.9	586.1
37.5°	647.7	641.5	599.7	560.3	541.8
40°	607.1	599.7	554.1	518.4	498.7
42.5°	568.9	559.0	514.7	476.5	454.4
45°	528.3	517.2	472.8	433.4	416.2
47.5°	487.6	477.8	437.1	396.5	376.8
50°	444.5	435.9	399.0	358.3	337.4
52.5°	408.8	395.3	359.6	318.9	301.7
55°	366.9	355.9	322.6	284.4	269.7
57.5°	328.8	317.7	286.9	251.2	238.9
60°	293.1	277.1	251.2	220.4	210.6
62.5°	253.7	241.3	219.2	193.3	205.6
65°	218.0	205.6	185.9	189.6	157.6
67.5°	178.5	172.4	155.2	137.9	133.0
70°	145.3	137.9	131.8	113.3	108.4
72.5°	115.7	108.4	99.7	89.9	86.2
75°	87.4	81.3	76.3	72.7	80.0
77.5°	60.3	57.9	54.2	50.5	49.3
80°	39.4	38.2	36.9	35.7	34.5
82.5°	23.4	23.4	23.4	23.4	23.4
85°	12.3	13.5	14.8	16.0	17.2
87.5°	7.4	7.4	8.6	9.9	11.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)