

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: P561032

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561032
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-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1688.0 lumens
Efficiency: N/A
Efficacy: 72.1 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

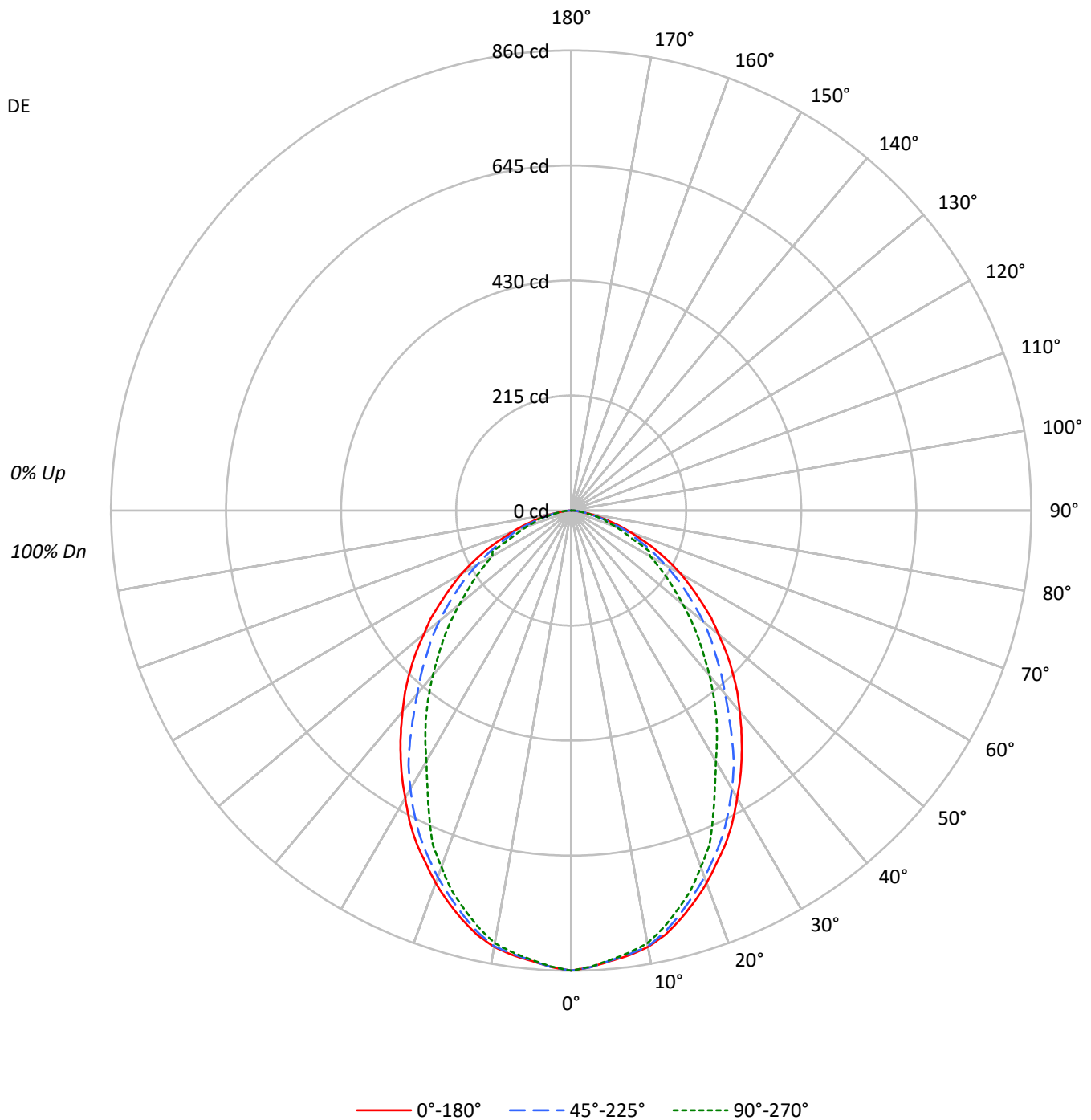
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561032

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-81-88-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561032

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-81-88-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°	2314	2314	2314
5°	2282	2280	2277
10°	2263	2260	2244
15°	2202	2179	2149
20°	2121	2086	2030
25°	2034	1989	1865
30°	1927	1866	1680
35°	1826	1724	1554
40°	1722	1571	1414
45°	1623	1453	1279
50°	1502	1348	1140
55°	1390	1222	1021
60°	1273	1091	915
65°	1120	956	810
70°	923	837	688
75°	734	640	672
80°	493	462	431
85°	306	367	429

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1623 cd/sqm

TEST NUMBER: P561032

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-81-88-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.0	4.7
10°-20°	219.7	13.0
20°-30°	304.1	18.0
30°-40°	324.3	19.2
40°-50°	295.8	17.5
50°-60°	231.8	13.7
60°-70°	151.0	8.9
70°-80°	66.9	4.0
80°-90°	14.4	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°	603.8	35.8
0°-40°	928.1	55.0
0°-60°	1455.7	86.2
0°-90°	1688.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1688.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	860	860	860	860	860	
5°	845	844	844	843	843	80
15°	790	790	782	774	771	222
25°	685	681	670	646	628	314
35°	556	552	525	485	473	347
45°	426	418	382	350	336	328
55°	296	287	260	230	218	266
65°	176	166	150	153	127	173
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



TEST NUMBER: P561032

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-81-88-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	859.8	859.8	859.8	859.8	859.8
2.5°	853.9	853.9	853.9	852.9	852.9
5°	844.9	843.9	843.9	842.9	842.9
7.5°	838.0	837.0	836.0	835.0	833.0
10°	828.0	828.0	827.0	822.1	821.1
12.5°	812.1	811.1	807.2	800.2	798.2
15°	790.3	790.3	782.3	774.4	771.4
17.5°	766.4	765.4	755.5	747.5	743.5
20°	740.6	738.6	728.6	715.7	708.8
22.5°	711.7	711.7	699.8	682.9	675.9
25°	684.9	680.9	670.0	646.1	628.2
27.5°	654.1	648.1	636.2	602.4	581.5
30°	620.3	617.3	600.4	556.7	540.8
32.5°	588.5	583.5	565.6	519.9	507.0
35°	555.7	551.7	524.9	485.1	473.2
37.5°	522.9	517.9	484.1	452.3	437.4
40°	490.1	484.1	447.3	418.5	402.6
42.5°	459.2	451.3	415.5	384.7	366.8
45°	426.4	417.5	381.7	349.9	336.0
47.5°	393.6	385.7	352.9	320.1	304.2
50°	358.8	351.9	322.1	289.3	272.4
52.5°	330.0	319.1	290.3	257.5	243.5
55°	296.2	287.3	260.4	229.6	217.7
57.5°	265.4	256.5	231.6	202.8	192.8
60°	236.6	223.7	202.8	177.9	170.0
62.5°	204.8	194.8	176.9	156.1	166.0
65°	175.9	166.0	150.1	153.1	127.2
67.5°	144.1	139.2	125.2	111.3	107.4
70°	117.3	111.3	106.4	91.5	87.5
72.5°	93.4	87.5	80.5	72.6	69.6
75°	70.6	65.6	61.6	58.6	64.6
77.5°	48.7	46.7	43.7	40.8	39.8
80°	31.8	30.8	29.8	28.8	27.8
82.5°	18.9	18.9	18.9	18.9	18.9
85°	9.9	10.9	11.9	12.9	13.9
87.5°	6.0	6.0	7.0	8.0	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)