

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: P562054

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562054
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-24-4-LD4-1HI-40-UNV-81-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3618.0 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

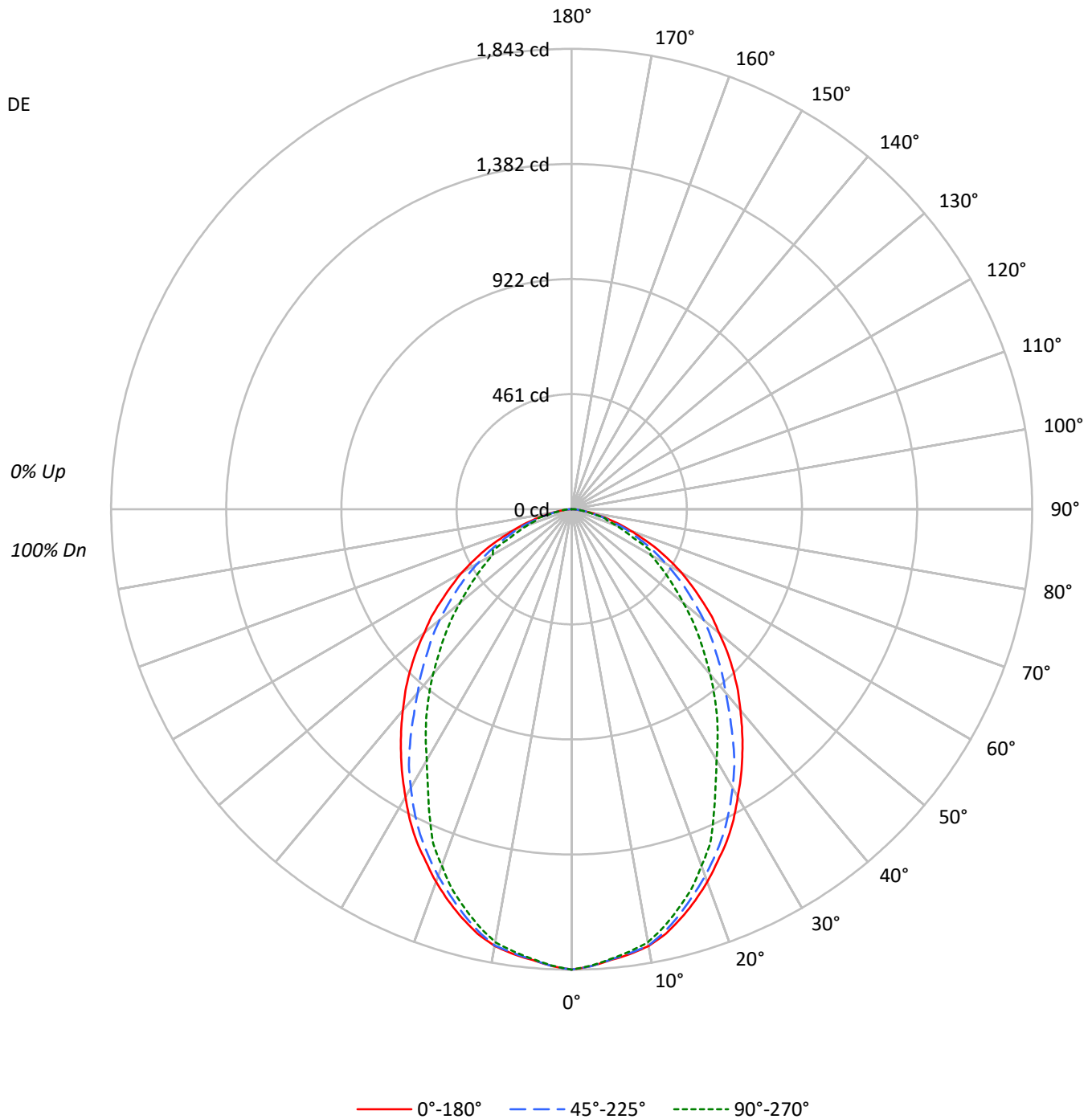
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P562054

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-81-87-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P562054

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-81-87-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					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2480	2480	2480
5°	2446	2443	2440
10°	2425	2422	2404
15°	2359	2336	2303
20°	2273	2236	2175
25°	2179	2132	1999
30°	2066	1999	1801
35°	1956	1848	1666
40°	1845	1684	1516
45°	1739	1557	1370
50°	1610	1445	1222
55°	1489	1309	1095
60°	1365	1169	980
65°	1201	1024	868
70°	989	897	738
75°	787	687	720
80°	528	495	463
85°	329	395	460

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1739 cd/sqm



TEST NUMBER: P562054

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-81-87-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.6	4.7
10°-20°	470.8	13.0
20°-30°	651.8	18.0
30°-40°	695.0	19.2
40°-50°	634.1	17.5
50°-60°	496.7	13.7
60°-70°	323.7	8.9
70°-80°	143.4	4.0
80°-90°	30.8	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°	1294.2	35.8
0°-40°	1989.2	55.0
0°-60°	3120.0	86.2
0°-90°	3618.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3618.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1811	1809	1809	1807	1807	172
15°	1694	1694	1677	1660	1653	476
25°	1468	1460	1436	1385	1346	674
35°	1191	1182	1125	1040	1014	745
45°	914	895	818	750	720	704
55°	635	616	558	492	467	569
65°	377	356	322	328	273	372
75°	151	141	132	126	138	162
85°	21	23	26	28	30	30
90°	0	0	0	0	0	



TEST NUMBER: P562054

CATALOG NUMBER: FSR-24-4-LD4-1HI-40-UNV-81-87-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1843.0	1843.0	1843.0	1843.0	1843.0
2.5°	1830.2	1830.2	1830.2	1828.0	1828.0
5°	1811.0	1808.9	1808.9	1806.7	1806.7
7.5°	1796.1	1794.0	1791.8	1789.7	1785.4
10°	1774.8	1774.8	1772.7	1762.0	1759.9
12.5°	1740.7	1738.6	1730.0	1715.1	1710.9
15°	1693.8	1693.8	1676.8	1659.7	1653.3
17.5°	1642.7	1640.6	1619.2	1602.2	1593.7
20°	1587.3	1583.0	1561.7	1534.0	1519.1
22.5°	1525.5	1525.5	1499.9	1463.7	1448.8
25°	1468.0	1459.5	1436.0	1384.9	1346.5
27.5°	1401.9	1389.1	1363.6	1291.1	1246.4
30°	1329.5	1323.1	1286.9	1193.1	1159.0
32.5°	1261.3	1250.7	1212.3	1114.3	1086.6
35°	1191.0	1182.5	1125.0	1039.7	1014.2
37.5°	1120.7	1110.0	1037.6	969.4	937.5
40°	1050.4	1037.6	958.8	897.0	862.9
42.5°	984.3	967.3	890.6	824.5	786.2
45°	914.0	894.8	818.1	750.0	720.1
47.5°	843.7	826.7	756.4	686.1	652.0
50°	769.1	754.2	690.3	620.0	583.8
52.5°	707.4	683.9	622.1	551.8	522.0
55°	634.9	615.7	558.2	492.2	466.6
57.5°	568.9	549.7	496.4	434.6	413.3
60°	507.1	479.4	434.6	381.4	364.3
62.5°	438.9	417.6	379.2	334.5	355.8
65°	377.1	355.8	321.7	328.1	272.7
67.5°	308.9	298.3	268.5	238.6	230.1
70°	251.4	238.6	228.0	196.0	187.5
72.5°	200.3	187.5	172.6	155.5	149.1
75°	151.3	140.6	132.1	125.7	138.5
77.5°	104.4	100.1	93.7	87.4	85.2
80°	68.2	66.0	63.9	61.8	59.7
82.5°	40.5	40.5	40.5	40.5	40.5
85°	21.3	23.4	25.6	27.7	29.8
87.5°	12.8	12.8	14.9	17.0	19.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)