

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: P561664

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561664
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-50-UNV-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4211.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

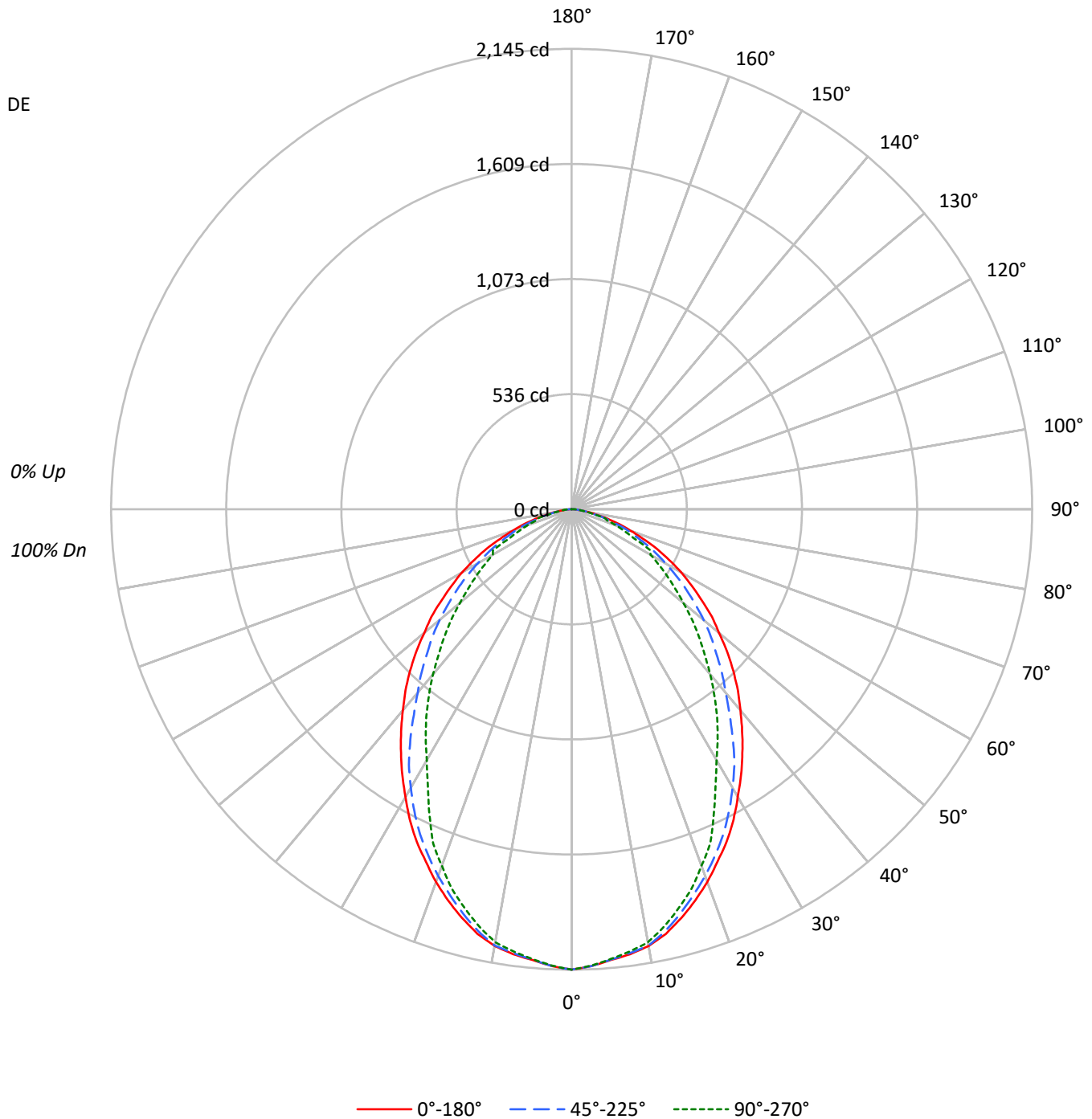
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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°	5772	5772	5772
5°	5694	5687	5680
10°	5645	5638	5597
15°	5492	5437	5361
20°	5291	5205	5063
25°	5073	4963	4653
30°	4808	4654	4192
35°	4554	4301	3878
40°	4294	3920	3528
45°	4048	3624	3190
50°	3748	3364	2845
55°	3467	3048	2548
60°	3176	2723	2282
65°	2795	2384	2021
70°	2302	2087	1717
75°	1831	1598	1676
80°	1230	1153	1075
85°	766	920	1071

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4048 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.7	4.7
10°-20°	548.0	13.0
20°-30°	758.7	18.0
30°-40°	808.9	19.2
40°-50°	738.0	17.5
50°-60°	578.2	13.7
60°-70°	376.8	8.9
70°-80°	166.9	4.0
80°-90°	35.8	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°	1506.3	35.8
0°-40°	2315.3	55.0
0°-60°	3631.4	86.2
0°-90°	4211.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2145	2145	2145	2145	2145	
5°	2108	2105	2105	2103	2103	200
15°	1971	1971	1952	1932	1924	554
25°	1709	1699	1671	1612	1567	784
35°	1386	1376	1309	1210	1180	867
45°	1064	1042	952	873	838	819
55°	739	717	650	573	543	663
65°	439	414	374	382	317	433
75°	176	164	154	146	161	189
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2145.0	2145.0	2145.0	2145.0	2145.0
2.5°	2130.1	2130.1	2130.1	2127.7	2127.7
5°	2107.8	2105.4	2105.4	2102.9	2102.9
7.5°	2090.5	2088.0	2085.5	2083.0	2078.1
10°	2065.7	2065.7	2063.2	2050.8	2048.3
12.5°	2026.0	2023.5	2013.6	1996.2	1991.3
15°	1971.4	1971.4	1951.6	1931.8	1924.3
17.5°	1911.9	1909.4	1884.6	1864.8	1854.9
20°	1847.5	1842.5	1817.7	1785.5	1768.1
22.5°	1775.5	1775.5	1745.8	1703.6	1686.3
25°	1708.6	1698.7	1671.4	1611.9	1567.2
27.5°	1631.7	1616.8	1587.1	1502.8	1450.7
30°	1547.4	1540.0	1497.8	1388.7	1349.0
32.5°	1468.0	1455.6	1411.0	1296.9	1264.7
35°	1386.2	1376.3	1309.3	1210.1	1180.4
37.5°	1304.4	1292.0	1207.7	1128.3	1091.1
40°	1222.5	1207.7	1115.9	1044.0	1004.3
42.5°	1145.7	1125.8	1036.6	959.7	915.0
45°	1063.8	1041.5	952.2	872.9	838.2
47.5°	982.0	962.2	880.3	798.5	758.8
50°	895.2	877.8	803.5	721.6	679.5
52.5°	823.3	796.0	724.1	642.3	607.6
55°	739.0	716.7	649.7	572.8	543.1
57.5°	662.1	639.8	577.8	505.9	481.1
60°	590.2	558.0	505.9	443.9	424.0
62.5°	510.8	486.0	441.4	389.3	414.1
65°	438.9	414.1	374.4	381.9	317.4
67.5°	359.6	347.2	312.5	277.7	267.8
70°	292.6	277.7	265.3	228.1	218.2
72.5°	233.1	218.2	200.9	181.0	173.6
75°	176.1	163.7	153.7	146.3	161.2
77.5°	121.5	116.6	109.1	101.7	99.2
80°	79.4	76.9	74.4	71.9	69.4
82.5°	47.1	47.1	47.1	47.1	47.1
85°	24.8	27.3	29.8	32.2	34.7
87.5°	14.9	14.9	17.4	19.8	22.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)