

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: P561536

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561536
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3943.0 lumens
Efficiency: N/A
Efficacy: 84.3 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

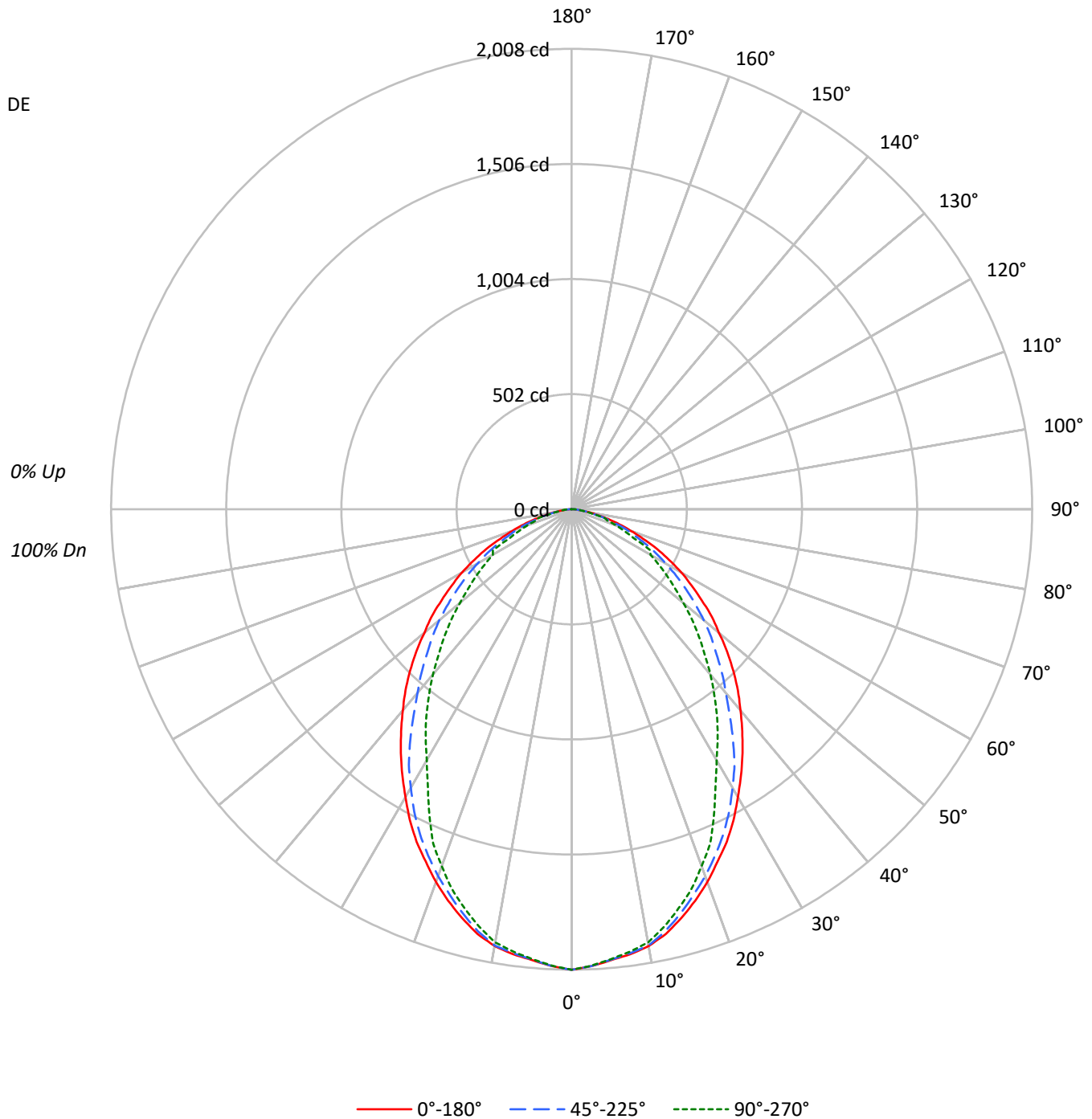
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5405	5405	5405
5°	5331	5325	5319
10°	5285	5279	5241
15°	5143	5091	5020
20°	4954	4874	4741
25°	4750	4647	4357
30°	4502	4358	3925
35°	4264	4028	3631
40°	4021	3671	3303
45°	3791	3393	2987
50°	3509	3149	2663
55°	3246	2854	2386
60°	2974	2549	2137
65°	2617	2232	1892
70°	2156	1955	1607
75°	1714	1497	1569
80°	1151	1080	1007
85°	716	861	1003

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3791 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.0	4.7
10°-20°	513.1	13.0
20°-30°	710.4	18.0
30°-40°	757.5	19.2
40°-50°	691.0	17.5
50°-60°	541.4	13.7
60°-70°	352.8	8.9
70°-80°	156.3	4.0
80°-90°	33.6	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°	1410.4	35.8
0°-40°	2167.9	55.0
0°-60°	3400.3	86.2
0°-90°	3943.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3943.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2008	2008	2008	2008	2008	
5°	1974	1971	1971	1969	1969	187
15°	1846	1846	1827	1809	1802	519
25°	1600	1591	1565	1509	1468	734
35°	1298	1289	1226	1133	1105	811
45°	996	975	892	817	785	767
55°	692	671	608	536	508	621
65°	411	388	351	358	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2008.5	2008.5	2008.5	2008.5	2008.5
2.5°	1994.6	1994.6	1994.6	1992.3	1992.3
5°	1973.7	1971.4	1971.4	1969.0	1969.0
7.5°	1957.4	1955.1	1952.8	1950.5	1945.8
10°	1934.2	1934.2	1931.9	1920.3	1918.0
12.5°	1897.1	1894.7	1885.4	1869.2	1864.5
15°	1846.0	1846.0	1827.4	1808.8	1801.9
17.5°	1790.2	1787.9	1764.7	1746.1	1736.8
20°	1729.9	1725.2	1702.0	1671.8	1655.6
22.5°	1662.5	1662.5	1634.7	1595.2	1578.9
25°	1599.8	1590.6	1565.0	1509.3	1467.5
27.5°	1527.9	1513.9	1486.1	1407.1	1358.4
30°	1448.9	1441.9	1402.5	1300.3	1263.2
32.5°	1374.6	1363.0	1321.2	1214.4	1184.2
35°	1298.0	1288.7	1226.0	1133.1	1105.3
37.5°	1221.4	1209.8	1130.8	1056.5	1021.7
40°	1144.7	1130.8	1044.9	977.6	940.4
42.5°	1072.8	1054.2	970.6	898.6	856.8
45°	996.1	975.2	891.6	817.3	784.8
47.5°	919.5	900.9	824.3	747.7	710.5
50°	838.2	822.0	752.3	675.7	636.2
52.5°	770.9	745.4	678.0	601.4	568.9
55°	691.9	671.1	608.4	536.4	508.5
57.5°	620.0	599.1	541.0	473.7	450.5
60°	552.6	522.4	473.7	415.6	397.1
62.5°	478.3	455.1	413.3	364.6	387.8
65°	411.0	387.8	350.6	357.6	297.2
67.5°	336.7	325.1	292.6	260.1	250.8
70°	274.0	260.1	248.5	213.6	204.3
72.5°	218.3	204.3	188.1	169.5	162.5
75°	164.9	153.3	144.0	137.0	150.9
77.5°	113.8	109.1	102.2	95.2	92.9
80°	74.3	72.0	69.7	67.3	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.9	30.2	32.5
87.5°	13.9	13.9	16.3	18.6	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)