

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: P561676

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561676
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-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4174.0 lumens
Efficiency: N/A
Efficacy: 89.2 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

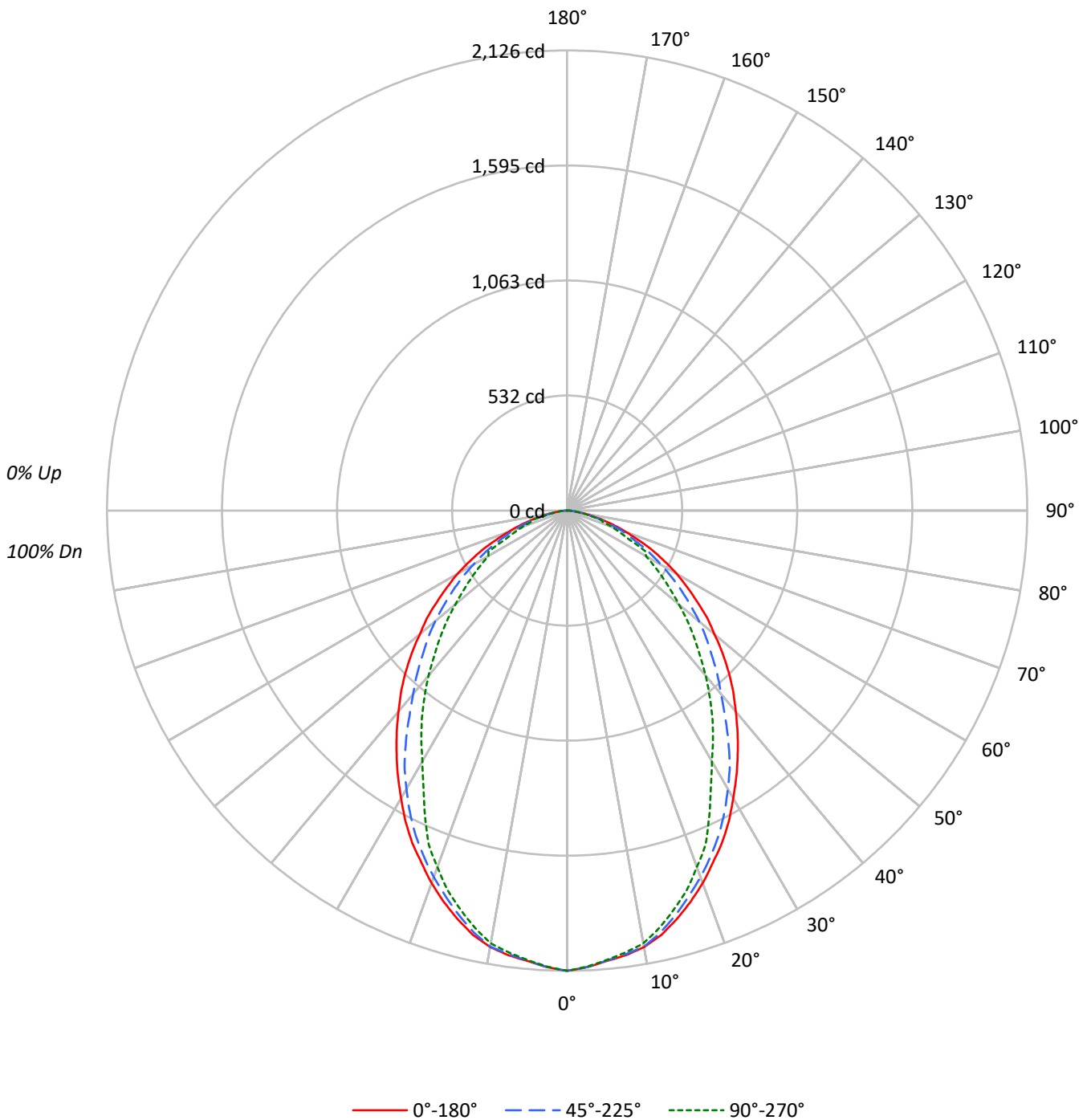
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5722	5722	5722
5°	5644	5637	5631
10°	5595	5588	5548
15°	5444	5389	5314
20°	5244	5159	5019
25°	5029	4919	4613
30°	4766	4613	4155
35°	4514	4263	3844
40°	4257	3886	3497
45°	4013	3592	3162
50°	3715	3334	2820
55°	3437	3021	2525
60°	3148	2699	2262
65°	2770	2364	2003
70°	2282	2069	1702
75°	1814	1585	1661
80°	1220	1142	1066
85°	760	911	1062

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4013 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.9	4.7
10°-20°	543.2	13.0
20°-30°	752.0	18.0
30°-40°	801.8	19.2
40°-50°	731.5	17.5
50°-60°	573.1	13.7
60°-70°	373.5	8.9
70°-80°	165.5	4.0
80°-90°	35.5	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°	1493.1	35.8
0°-40°	2294.9	55.0
0°-60°	3599.5	86.2
0°-90°	4174.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4174.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2126	2126	2126	2126	2126	
5°	2089	2087	2087	2084	2084	198
15°	1954	1954	1934	1915	1907	549
25°	1694	1684	1657	1598	1554	778
35°	1374	1364	1298	1200	1170	859
45°	1054	1032	944	865	831	812
55°	732	710	644	568	538	657
65°	435	410	371	378	315	429
75°	174	162	152	145	160	187
85°	25	27	30	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2126.2	2126.2	2126.2	2126.2	2126.2
2.5°	2111.4	2111.4	2111.4	2109.0	2109.0
5°	2089.3	2086.9	2086.9	2084.4	2084.4
7.5°	2072.1	2069.6	2067.2	2064.7	2059.8
10°	2047.5	2047.5	2045.1	2032.8	2030.3
12.5°	2008.2	2005.7	1995.9	1978.7	1973.8
15°	1954.1	1954.1	1934.5	1914.8	1907.4
17.5°	1895.1	1892.7	1868.1	1848.4	1838.6
20°	1831.2	1826.3	1801.7	1769.8	1752.6
22.5°	1759.9	1759.9	1730.4	1688.7	1671.4
25°	1693.6	1683.7	1656.7	1597.7	1553.5
27.5°	1617.4	1602.6	1573.1	1489.6	1437.9
30°	1533.8	1526.4	1484.6	1376.5	1337.2
32.5°	1455.1	1442.9	1398.6	1285.5	1253.6
35°	1374.0	1364.2	1297.8	1199.5	1170.0
37.5°	1292.9	1280.6	1197.1	1118.4	1081.5
40°	1211.8	1197.1	1106.1	1034.8	995.5
42.5°	1135.6	1115.9	1027.4	951.3	907.0
45°	1054.5	1032.4	943.9	865.2	830.8
47.5°	973.4	953.7	872.6	791.5	752.2
50°	887.3	870.1	796.4	715.3	673.5
52.5°	816.1	789.0	717.7	636.6	602.2
55°	732.5	710.4	644.0	567.8	538.3
57.5°	656.3	634.2	572.7	501.4	476.9
60°	585.0	553.1	501.4	440.0	420.3
62.5°	506.4	481.8	437.5	385.9	410.5
65°	435.1	410.5	371.2	378.5	314.6
67.5°	356.4	344.1	309.7	275.3	265.5
70°	290.0	275.3	263.0	226.1	216.3
72.5°	231.1	216.3	199.1	179.4	172.1
75°	174.5	162.2	152.4	145.0	159.8
77.5°	120.4	115.5	108.2	100.8	98.3
80°	78.7	76.2	73.7	71.3	68.8
82.5°	46.7	46.7	46.7	46.7	46.7
85°	24.6	27.0	29.5	32.0	34.4
87.5°	14.7	14.7	17.2	19.7	22.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)