

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: P561694

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-82-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561694
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-82-97-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 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: 4024.0 lumens
Efficiency: N/A
Efficacy: 86.0 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

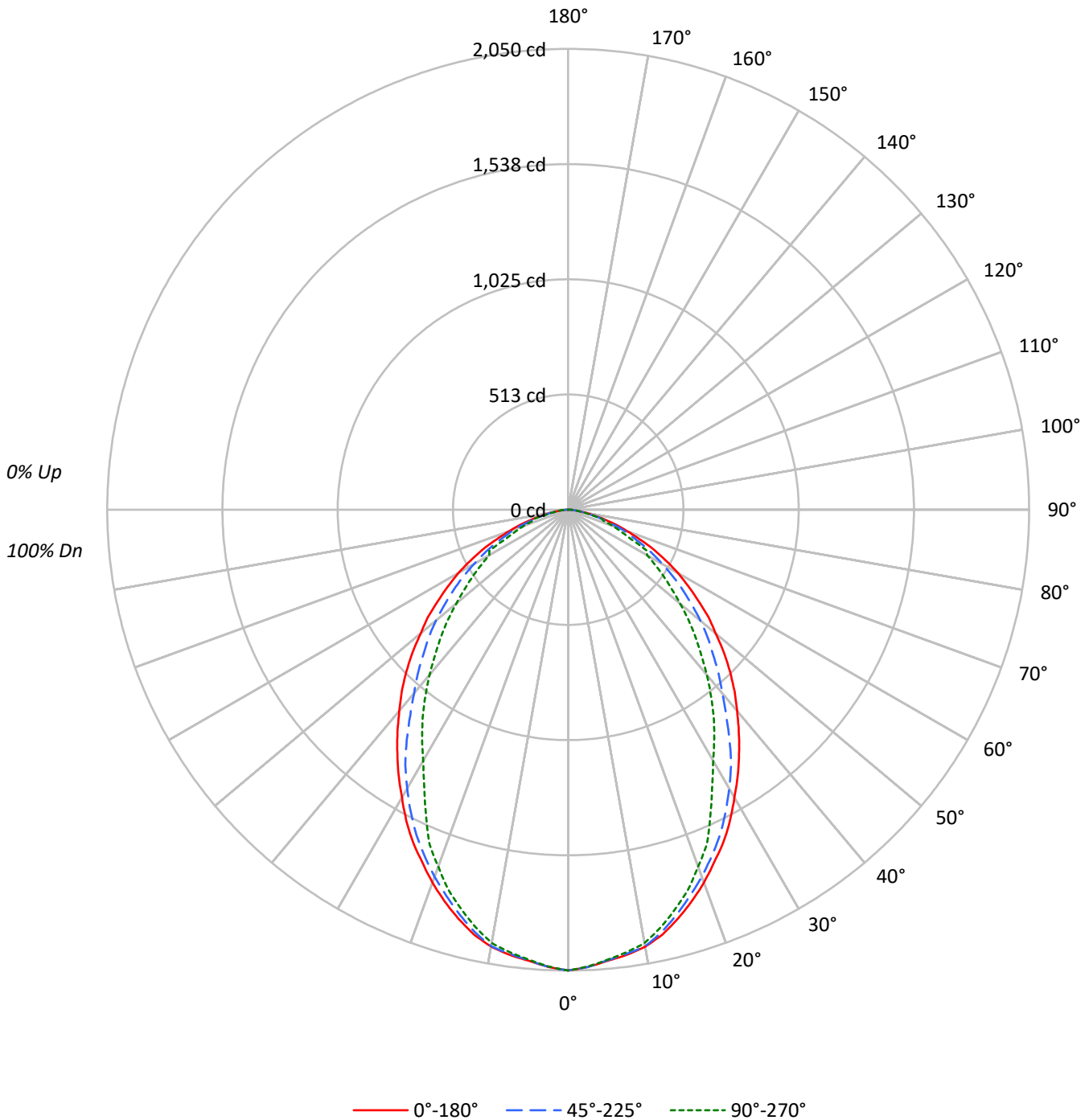
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5516	5516	5516
5°	5441	5435	5428
10°	5394	5387	5349
15°	5248	5195	5123
20°	5056	4974	4838
25°	4848	4742	4447
30°	4595	4447	4006
35°	4352	4110	3706
40°	4104	3746	3371
45°	3869	3463	3048
50°	3581	3214	2718
55°	3313	2913	2435
60°	3035	2602	2181
65°	2670	2278	1931
70°	2200	1995	1640
75°	1749	1527	1601
80°	1175	1102	1029
85°	732	877	1025

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3869 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.8	4.7
10°-20°	523.7	13.0
20°-30°	725.0	18.0
30°-40°	773.0	19.2
40°-50°	705.2	17.5
50°-60°	552.5	13.7
60°-70°	360.1	8.9
70°-80°	159.5	4.0
80°-90°	34.2	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°	1439.4	35.8
0°-40°	2212.4	55.0
0°-60°	3470.1	86.2
0°-90°	4024.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4024.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2050	2050	2050	2050	2050	
5°	2014	2012	2012	2010	2010	191
15°	1884	1884	1865	1846	1839	530
25°	1633	1623	1597	1540	1498	750
35°	1325	1315	1251	1156	1128	828
45°	1017	995	910	834	801	783
55°	706	685	621	547	519	633
65°	419	396	358	365	303	413
75°	168	156	147	140	154	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2049.8	2049.8	2049.8	2049.8	2049.8
2.5°	2035.6	2035.6	2035.6	2033.2	2033.2
5°	2014.2	2011.9	2011.9	2009.5	2009.5
7.5°	1997.6	1995.3	1992.9	1990.5	1985.8
10°	1973.9	1973.9	1971.6	1959.7	1957.4
12.5°	1936.0	1933.7	1924.2	1907.6	1902.9
15°	1883.9	1883.9	1864.9	1846.0	1838.9
17.5°	1827.0	1824.7	1801.0	1782.0	1772.5
20°	1765.4	1760.7	1737.0	1706.2	1689.6
22.5°	1696.7	1696.7	1668.3	1628.0	1611.4
25°	1632.7	1623.2	1597.2	1540.3	1497.6
27.5°	1559.2	1545.0	1516.6	1436.0	1386.3
30°	1478.7	1471.6	1431.3	1327.0	1289.1
32.5°	1402.8	1391.0	1348.3	1239.3	1208.5
35°	1324.7	1315.2	1251.2	1156.4	1128.0
37.5°	1246.5	1234.6	1154.0	1078.2	1042.7
40°	1168.3	1154.0	1066.4	997.6	959.7
42.5°	1094.8	1075.8	990.5	917.1	874.4
45°	1016.6	995.3	910.0	834.1	801.0
47.5°	938.4	919.4	841.2	763.0	725.1
50°	855.5	838.9	767.8	689.6	649.3
52.5°	786.7	760.7	691.9	613.7	580.6
55°	706.2	684.8	620.9	547.4	519.0
57.5°	632.7	611.4	552.1	483.4	459.7
60°	564.0	533.2	483.4	424.2	405.2
62.5°	488.2	464.5	421.8	372.0	395.7
65°	419.4	395.7	357.8	364.9	303.3
67.5°	343.6	331.8	298.6	265.4	255.9
70°	279.6	265.4	253.6	218.0	208.5
72.5°	222.7	208.5	191.9	173.0	165.9
75°	168.2	156.4	146.9	139.8	154.0
77.5°	116.1	111.4	104.3	97.2	94.8
80°	75.8	73.5	71.1	68.7	66.4
82.5°	45.0	45.0	45.0	45.0	45.0
85°	23.7	26.1	28.4	30.8	33.2
87.5°	14.2	14.2	16.6	19.0	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)