

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: P590849

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-81-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590849
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4LO-40-UNV-81-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4722.0 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

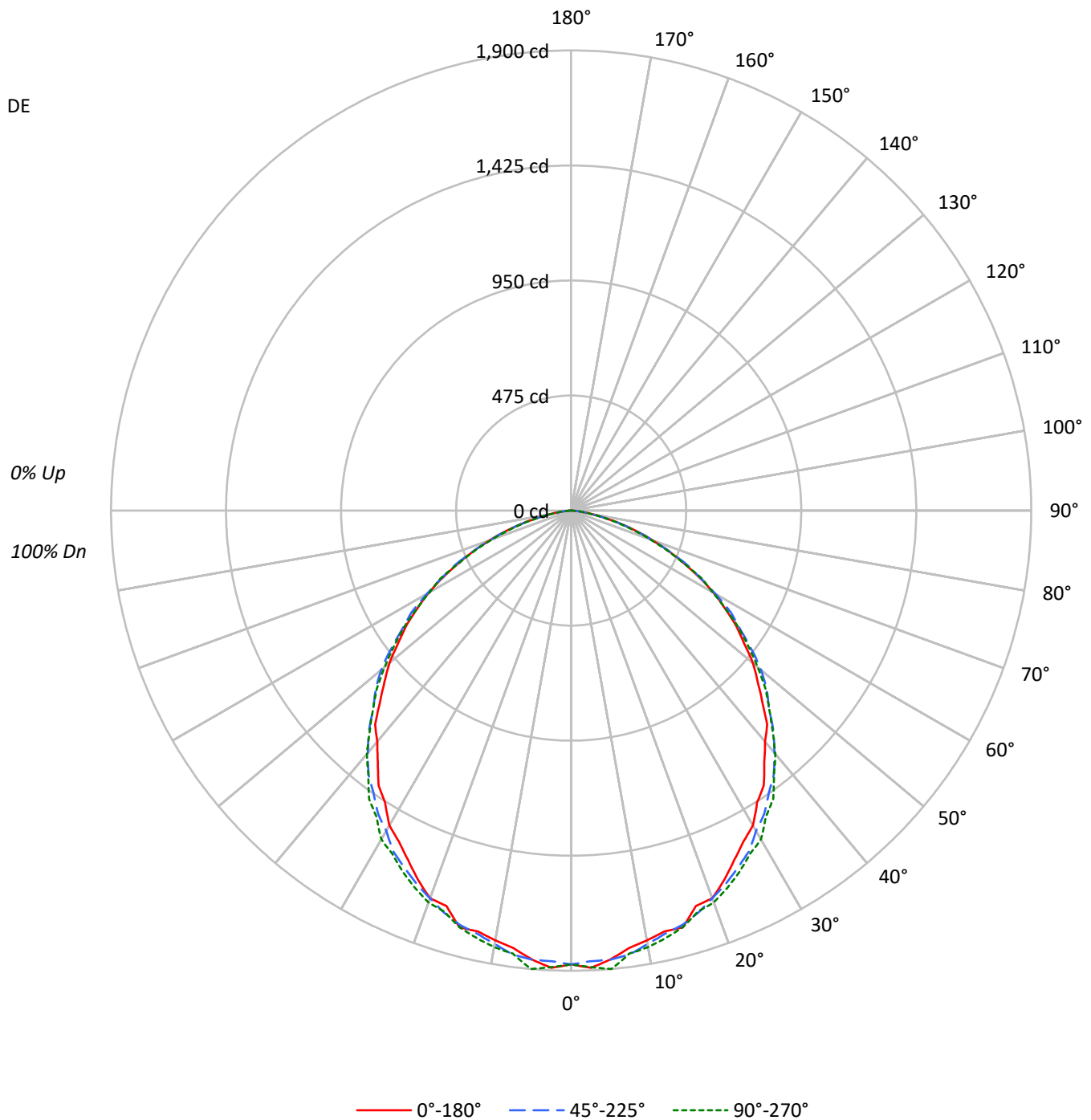
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5042	5042	5042
5°	5025	5027	5133
10°	4923	4966	5001
15°	4962	4935	4963
20°	4878	4878	4930
25°	4728	4832	4885
30°	4663	4745	4872
35°	4553	4673	4777
40°	4376	4587	4607
45°	4244	4395	4402
50°	4104	4290	4208
55°	3911	3987	3959
60°	3657	3694	3627
65°	3261	3344	3238
70°	2798	2807	2729
75°	2216	2210	2125
80°	1485	1443	1387
85°	806	800	747

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4508 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.2	3.7
10°-20°	499.5	10.6
20°-30°	748.3	15.8
30°-40°	886.9	18.8
40°-50°	888.6	18.8
50°-60°	754.2	16.0
60°-70°	508.5	10.8
70°-80°	223.4	4.7
80°-90°	36.3	0.8
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°	1424.0	30.2
0°-40°	2311.0	48.9
0°-60°	3953.7	83.7
0°-90°	4722.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4722.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1874	1874	1874	1874	1874	
5°	1860	1856	1861	1855	1900	175
15°	1781	1761	1772	1781	1781	496
25°	1592	1601	1627	1649	1645	736
35°	1386	1390	1422	1455	1454	861
45°	1115	1136	1155	1185	1157	863
55°	834	828	850	844	844	742
65°	512	505	525	505	508	509
75°	213	209	213	198	204	228
85°	26	25	26	25	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1873.6	1873.6	1873.6	1873.6	1873.6
2.5°	1889.8	1875.5	1862.2	1877.7	1887.1
5°	1860.3	1855.9	1861.0	1855.4	1900.2
7.5°	1822.0	1838.7	1848.4	1842.4	1845.0
10°	1801.7	1795.9	1817.4	1832.4	1830.3
12.5°	1780.0	1788.7	1789.9	1806.1	1807.5
15°	1781.2	1760.6	1771.5	1780.7	1781.4
17.5°	1712.0	1734.2	1741.7	1762.8	1736.7
20°	1703.5	1687.3	1703.5	1725.0	1721.7
22.5°	1651.5	1633.4	1668.2	1687.3	1686.1
25°	1592.5	1601.2	1627.3	1648.6	1645.2
27.5°	1540.7	1550.9	1588.1	1617.4	1598.5
30°	1500.8	1495.7	1527.2	1553.3	1567.8
32.5°	1429.4	1447.8	1484.6	1510.5	1496.7
35°	1386.1	1390.2	1422.4	1455.3	1454.3
37.5°	1310.4	1329.5	1374.8	1384.0	1375.5
40°	1245.8	1264.9	1305.8	1315.7	1311.6
42.5°	1198.2	1201.6	1236.6	1248.0	1229.9
45°	1115.2	1136.0	1154.9	1184.6	1156.6
47.5°	1044.6	1054.2	1094.9	1102.9	1088.1
50°	980.4	983.8	1024.7	1014.8	1005.1
52.5°	899.9	914.2	937.1	935.2	923.8
55°	833.6	828.0	849.8	844.0	843.8
57.5°	754.0	763.7	781.6	772.4	757.7
60°	679.5	679.8	686.3	675.9	674.0
62.5°	596.5	599.4	600.9	588.1	608.9
65°	512.1	505.3	525.2	505.1	508.5
67.5°	434.5	437.9	435.9	423.3	428.2
70°	355.6	360.0	356.8	342.5	346.9
72.5°	283.5	278.2	281.6	263.7	271.9
75°	213.1	208.8	212.6	197.6	204.4
77.5°	145.1	148.5	146.1	138.1	142.7
80°	95.8	93.1	93.1	88.5	89.5
82.5°	55.9	53.2	52.5	51.0	53.2
85°	26.1	25.4	25.9	25.2	24.2
87.5°	9.4	9.7	9.7	9.2	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)