

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: P562754

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562754
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-24-4-LD4-2LO-40-UNV-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4605.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

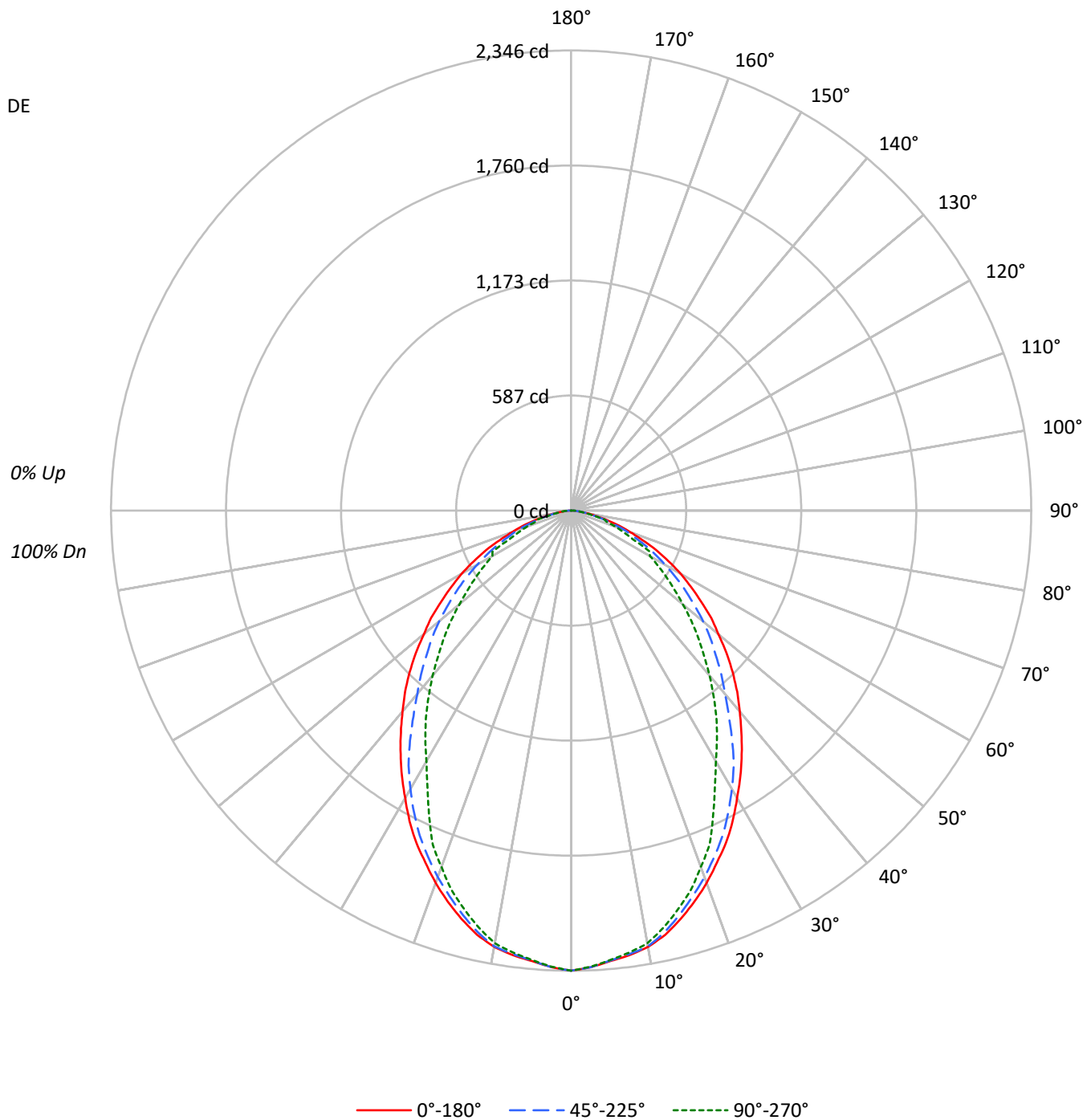
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P562754

CATALOG NUMBER: FSR-24-4-LD4-2LO-40-UNV-81-85-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P562754

CATALOG NUMBER: FSR-24-4-LD4-2LO-40-UNV-81-85-EDD-90

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°	3156	3156	3156
5°	3113	3110	3106
10°	3086	3083	3060
15°	3003	2973	2931
20°	2893	2846	2768
25°	2774	2714	2544
30°	2629	2545	2292
35°	2490	2352	2120
40°	2348	2143	1929
45°	2214	1981	1744
50°	2049	1839	1555
55°	1896	1667	1393
60°	1737	1489	1248
65°	1528	1304	1105
70°	1259	1142	939
75°	1001	874	917
80°	673	631	588
85°	418	502	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2214 cd/sqm



TEST NUMBER: P562754

CATALOG NUMBER: FSR-24-4-LD4-2LO-40-UNV-81-85-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.4	4.7
10°-20°	599.3	13.0
20°-30°	829.6	18.0
30°-40°	884.6	19.2
40°-50°	807.0	17.5
50°-60°	632.3	13.7
60°-70°	412.1	8.9
70°-80°	182.6	4.0
80°-90°	39.2	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°	1647.2	35.8
0°-40°	2531.9	55.0
0°-60°	3971.2	86.2
0°-90°	4605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4605.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2346	2346	2346	2346	2346	
5°	2305	2302	2302	2300	2300	219
15°	2156	2156	2134	2112	2104	606
25°	1868	1858	1828	1763	1714	858
35°	1516	1505	1432	1323	1291	948
45°	1163	1139	1041	955	917	896
55°	808	784	710	626	594	725
65°	480	453	410	418	347	473
75°	192	179	168	160	176	206
85°	27	30	32	35	38	38
90°	0	0	0	0	0	



TEST NUMBER: P562754

CATALOG NUMBER: FSR-24-4-LD4-2LO-40-UNV-81-85-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2345.7	2345.7	2345.7	2345.7	2345.7
2.5°	2329.5	2329.5	2329.5	2326.7	2326.7
5°	2305.0	2302.3	2302.3	2299.6	2299.6
7.5°	2286.1	2283.4	2280.6	2277.9	2272.5
10°	2258.9	2258.9	2256.2	2242.7	2240.0
12.5°	2215.6	2212.8	2202.0	2183.0	2177.6
15°	2155.9	2155.9	2134.2	2112.5	2104.4
17.5°	2090.8	2088.1	2061.0	2039.3	2028.4
20°	2020.3	2014.9	1987.8	1952.5	1933.5
22.5°	1941.7	1941.7	1909.1	1863.0	1844.0
25°	1868.4	1857.6	1827.8	1762.7	1713.9
27.5°	1784.4	1768.1	1735.6	1643.4	1586.4
30°	1692.2	1684.0	1637.9	1518.6	1475.2
32.5°	1605.4	1591.8	1543.0	1418.3	1383.0
35°	1515.9	1505.1	1431.8	1323.4	1290.8
37.5°	1426.4	1412.9	1320.7	1233.9	1193.2
40°	1336.9	1320.7	1220.3	1141.7	1098.3
42.5°	1252.9	1231.2	1133.5	1049.5	1000.7
45°	1163.4	1139.0	1041.3	954.6	916.6
47.5°	1073.9	1052.2	962.7	873.2	829.8
50°	979.0	960.0	878.6	789.1	743.0
52.5°	900.3	870.5	791.9	702.4	664.4
55°	808.1	783.7	710.5	626.4	593.9
57.5°	724.1	699.6	631.9	553.2	526.1
60°	645.4	610.2	553.2	485.4	463.7
62.5°	558.6	531.5	482.7	425.8	452.9
65°	480.0	452.9	409.5	417.6	347.1
67.5°	393.2	379.7	341.7	303.7	292.9
70°	320.0	303.7	290.2	249.5	238.6
72.5°	254.9	238.6	219.7	198.0	189.8
75°	192.5	179.0	168.1	160.0	176.3
77.5°	132.9	127.5	119.3	111.2	108.5
80°	86.8	84.1	81.4	78.6	75.9
82.5°	51.5	51.5	51.5	51.5	51.5
85°	27.1	29.8	32.5	35.3	38.0
87.5°	16.3	16.3	19.0	21.7	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)