

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: P562564

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562564
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-LD4-2HI-40-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7479.0 lumens
Efficiency: N/A
Efficacy: 86.6 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

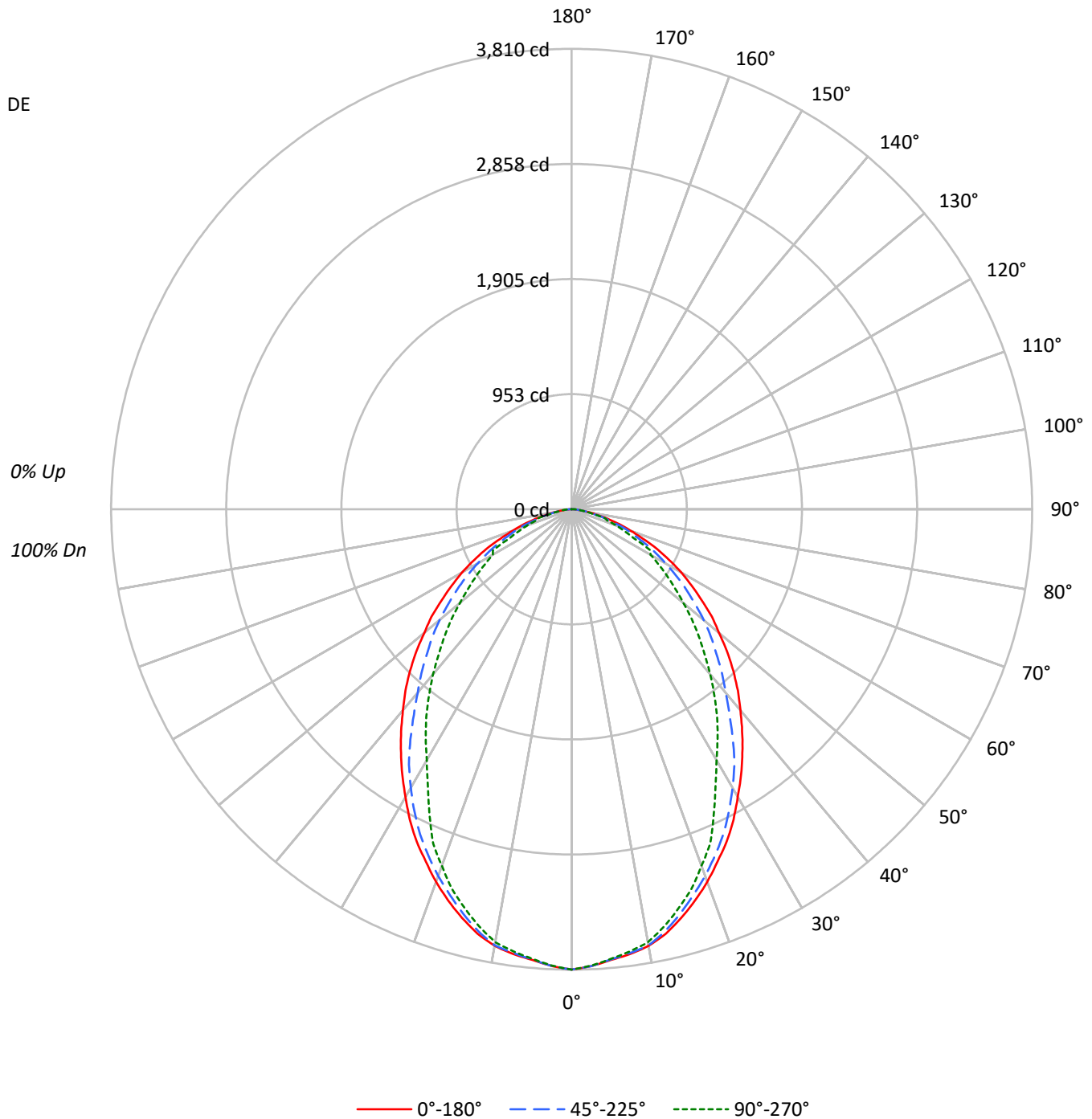
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P562564

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P562564

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-86-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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5126	5126	5126
5°	5056	5050	5044
10°	5012	5006	4970
15°	4877	4828	4761
20°	4698	4622	4496
25°	4505	4407	4132
30°	4270	4133	3722
35°	4044	3820	3443
40°	3814	3481	3133
45°	3595	3218	2833
50°	3328	2987	2526
55°	3079	2707	2263
60°	2821	2418	2027
65°	2482	2117	1795
70°	2044	1854	1525
75°	1626	1420	1488
80°	1092	1024	955
85°	679	817	953

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3595 cd/sqm



TEST NUMBER: P562564

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	354.6	4.7
10°-20°	973.3	13.0
20°-30°	1347.4	18.0
30°-40°	1436.7	19.2
40°-50°	1310.7	17.5
50°-60°	1026.8	13.7
60°-70°	669.3	8.9
70°-80°	296.5	4.0
80°-90°	63.7	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°	2675.3	35.8
0°-40°	4112.0	55.0
0°-60°	6449.6	86.2
0°-90°	7479.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7479.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3810	3810	3810	3810	3810	
5°	3744	3739	3739	3735	3735	355
15°	3501	3501	3466	3431	3418	984
25°	3034	3017	2968	2863	2784	1393
35°	2462	2444	2326	2149	2096	1539
45°	1889	1850	1691	1550	1489	1455
55°	1312	1273	1154	1017	964	1177
65°	780	736	665	678	564	768
75°	313	291	273	260	286	335
85°	44	48	53	57	62	61
90°	0	0	0	0	0	



TEST NUMBER: P562564

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-81-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3809.7	3809.7	3809.7	3809.7	3809.7
2.5°	3783.3	3783.3	3783.3	3778.9	3778.9
5°	3743.6	3739.2	3739.2	3734.8	3734.8
7.5°	3712.8	3708.4	3704.0	3699.6	3690.8
10°	3668.8	3668.8	3664.4	3642.3	3637.9
12.5°	3598.3	3593.9	3576.3	3545.4	3536.6
15°	3501.4	3501.4	3466.2	3430.9	3417.7
17.5°	3395.7	3391.3	3347.3	3312.0	3294.4
20°	3281.2	3272.4	3228.3	3171.1	3140.3
22.5°	3153.5	3153.5	3100.6	3025.7	2994.9
25°	3034.5	3016.9	2968.5	2862.8	2783.5
27.5°	2898.0	2871.6	2818.7	2669.0	2576.5
30°	2748.3	2735.1	2660.2	2466.4	2395.9
32.5°	2607.3	2585.3	2506.0	2303.4	2246.2
35°	2462.0	2444.4	2325.5	2149.3	2096.4
37.5°	2316.7	2294.6	2144.9	2003.9	1937.9
40°	2171.3	2144.9	1981.9	1854.2	1783.7
42.5°	2034.8	1999.5	1841.0	1704.5	1625.2
45°	1889.4	1849.8	1691.2	1550.3	1488.6
47.5°	1744.1	1708.9	1563.5	1418.2	1347.7
50°	1589.9	1559.1	1427.0	1281.6	1206.8
52.5°	1462.2	1413.8	1286.0	1140.7	1079.0
55°	1312.5	1272.8	1153.9	1017.4	964.5
57.5°	1175.9	1136.3	1026.2	898.5	854.4
60°	1048.2	991.0	898.5	788.4	753.1
62.5°	907.3	863.2	784.0	691.5	735.5
65°	779.6	735.5	665.0	678.3	563.7
67.5°	638.6	616.6	554.9	493.3	475.7
70°	519.7	493.3	471.3	405.2	387.6
72.5°	414.0	387.6	356.7	321.5	308.3
75°	312.7	290.7	273.1	259.9	286.3
77.5°	215.8	207.0	193.8	180.6	176.2
80°	140.9	136.5	132.1	127.7	123.3
82.5°	83.7	83.7	83.7	83.7	83.7
85°	44.0	48.4	52.9	57.3	61.7
87.5°	26.4	26.4	30.8	35.2	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)