

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: P561444

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561444
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-LD4-2HI-40-UNV-93-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6714.0 lumens
Efficiency: N/A
Efficacy: 77.7 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

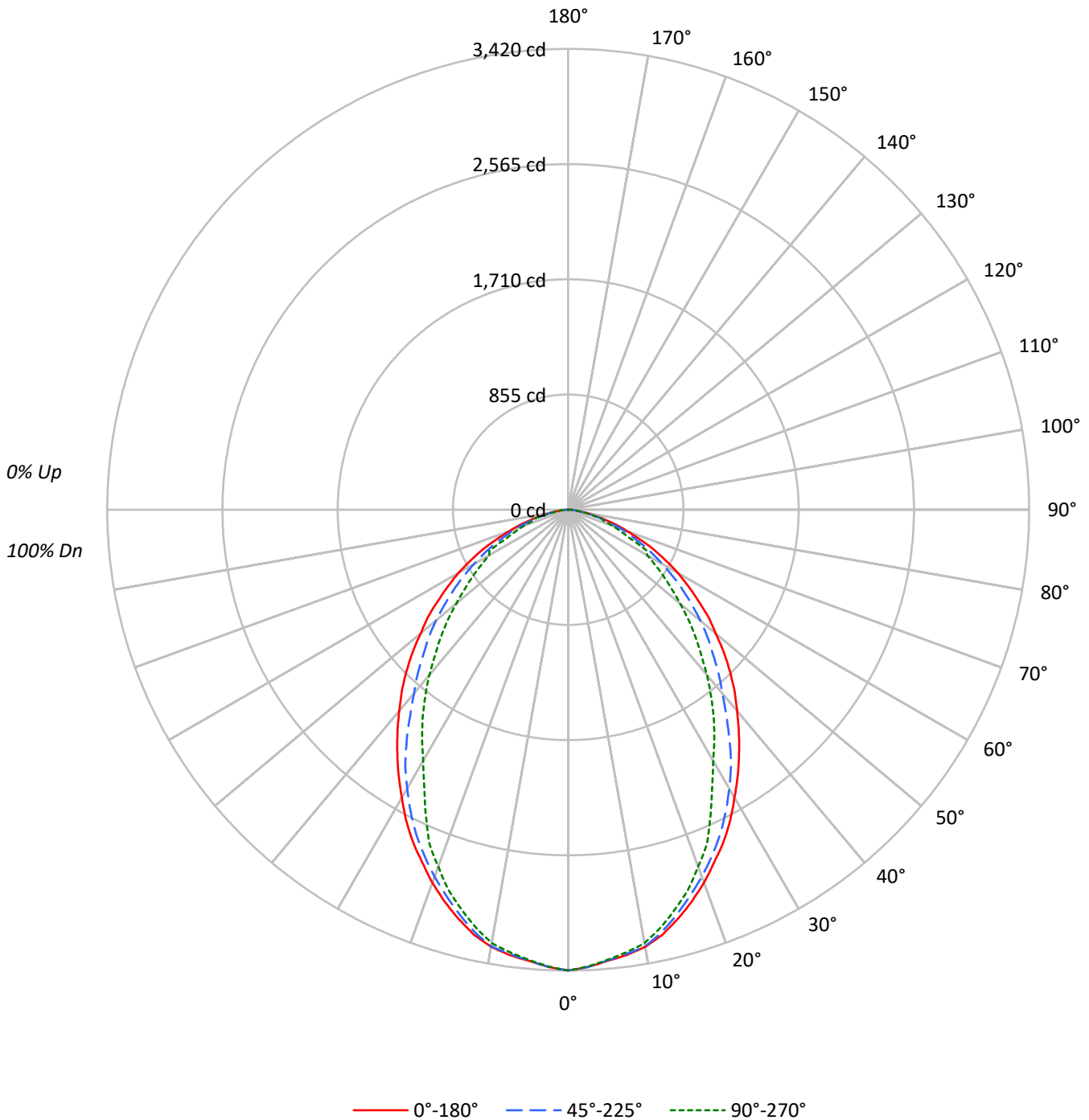
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561444

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561444

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-86-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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9203	9203	9203
5°	9078	9068	9057
10°	8999	8989	8924
15°	8757	8669	8547
20°	8435	8299	8073
25°	8089	7912	7419
30°	7666	7420	6683
35°	7261	6858	6183
40°	6847	6250	5625
45°	6455	5778	5086
50°	5975	5363	4535
55°	5528	4860	4062
60°	5064	4341	3639
65°	4456	3801	3223
70°	3670	3329	2737
75°	2918	2548	2672
80°	1960	1838	1715
85°	1220	1463	1711

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6455 cd/sqm



TEST NUMBER: P561444

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.4	4.7
10°-20°	873.7	13.0
20°-30°	1209.6	18.0
30°-40°	1289.8	19.2
40°-50°	1176.6	17.5
50°-60°	921.8	13.7
60°-70°	600.8	8.9
70°-80°	266.2	4.0
80°-90°	57.1	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°	2401.7	35.8
0°-40°	3691.4	55.0
0°-60°	5789.9	86.2
0°-90°	6714.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6714.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3420	3420	3420	3420	3420	
5°	3361	3357	3357	3353	3353	319
15°	3143	3143	3112	3080	3068	884
25°	2724	2708	2665	2570	2499	1251
35°	2210	2194	2088	1929	1882	1382
45°	1696	1661	1518	1392	1336	1307
55°	1178	1143	1036	913	866	1057
65°	700	660	597	609	506	690
75°	281	261	245	233	257	301
85°	40	44	47	51	55	55
90°	0	0	0	0	0	



TEST NUMBER: P561444

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3420.0	3420.0	3420.0	3420.0	3420.0
2.5°	3396.3	3396.3	3396.3	3392.3	3392.3
5°	3360.7	3356.8	3356.8	3352.8	3352.8
7.5°	3333.0	3329.1	3325.1	3321.2	3313.3
10°	3293.5	3293.5	3289.5	3269.8	3265.8
12.5°	3230.2	3226.3	3210.5	3182.8	3174.9
15°	3143.3	3143.3	3111.6	3080.0	3068.1
17.5°	3048.4	3044.4	3004.9	2973.2	2957.4
20°	2945.6	2937.7	2898.1	2846.7	2819.0
22.5°	2830.9	2830.9	2783.5	2716.2	2688.6
25°	2724.2	2708.3	2664.8	2570.0	2498.8
27.5°	2601.6	2577.9	2530.4	2396.0	2313.0
30°	2467.2	2455.3	2388.1	2214.1	2150.9
32.5°	2340.6	2320.9	2249.7	2067.8	2016.4
35°	2210.2	2194.3	2087.6	1929.4	1882.0
37.5°	2079.7	2059.9	1925.5	1799.0	1739.7
40°	1949.2	1925.5	1779.2	1664.5	1601.3
42.5°	1826.6	1795.0	1652.7	1530.1	1458.9
45°	1696.2	1660.6	1518.3	1391.7	1336.4
47.5°	1565.7	1534.1	1403.6	1273.1	1209.9
50°	1427.3	1399.6	1281.0	1150.6	1083.3
52.5°	1312.7	1269.2	1154.5	1024.0	968.7
55°	1178.2	1142.6	1035.9	913.3	865.9
57.5°	1055.7	1020.1	921.2	806.6	767.0
60°	941.0	889.6	806.6	707.7	676.1
62.5°	814.5	774.9	703.8	620.7	660.3
65°	699.8	660.3	597.0	608.9	506.1
67.5°	573.3	553.5	498.2	442.8	427.0
70°	466.5	442.8	423.1	363.7	347.9
72.5°	371.7	347.9	320.3	288.6	276.8
75°	280.7	260.9	245.1	233.3	257.0
77.5°	193.7	185.8	174.0	162.1	158.2
80°	126.5	122.6	118.6	114.7	110.7
82.5°	75.1	75.1	75.1	75.1	75.1
85°	39.5	43.5	47.4	51.4	55.4
87.5°	23.7	23.7	27.7	31.6	35.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)