

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: P563816

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563816
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-LD4-4HI-50-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14475.0 lumens
Efficiency: N/A
Efficacy: 83.8 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

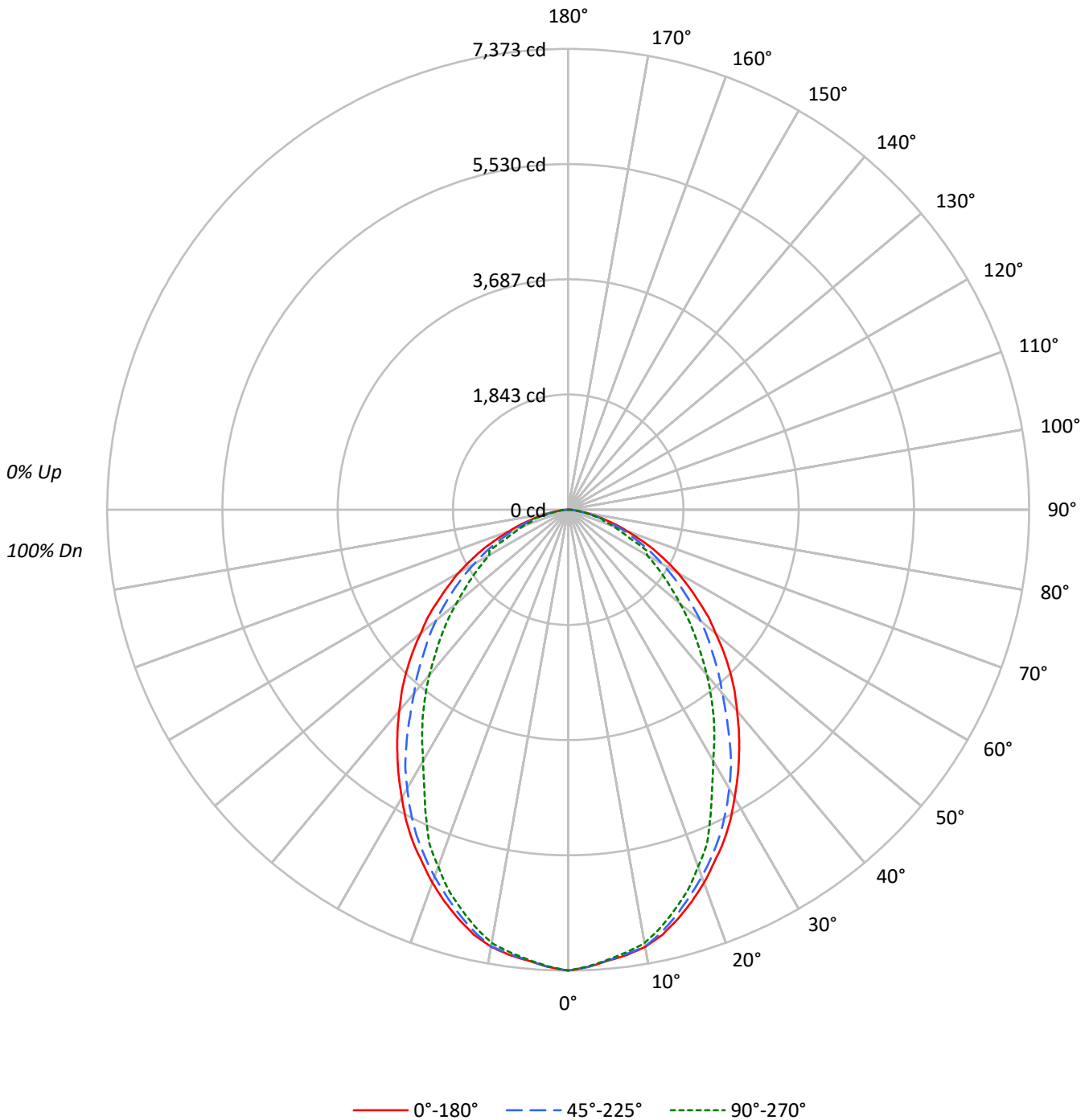
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563816

CATALOG NUMBER: FSR-24-4-LD4-4HI-50-UNV-93-88-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563816

CATALOG NUMBER: FSR-24-4-LD4-4HI-50-UNV-93-88-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			
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°	9921	9921	9921
5°	9786	9775	9763
10°	9701	9690	9620
15°	9440	9345	9214
20°	9093	8946	8702
25°	8719	8529	7998
30°	8264	7999	7204
35°	7827	7393	6665
40°	7381	6737	6064
45°	6958	6228	5482
50°	6441	5781	4889
55°	5959	5239	4379
60°	5459	4679	3922
65°	4804	4098	3474
70°	3957	3588	2951
75°	3146	2747	2881
80°	2114	1981	1850
85°	1315	1579	1842

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6958 cd/sqm



TEST NUMBER: P563816

CATALOG NUMBER: FSR-24-4-LD4-4HI-50-UNV-93-88-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	686.4	4.7
10°-20°	1883.7	13.0
20°-30°	2607.8	18.0
30°-40°	2780.7	19.2
40°-50°	2536.8	17.5
50°-60°	1987.4	13.7
60°-70°	1295.3	8.9
70°-80°	573.9	4.0
80°-90°	123.2	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°	5177.8	35.8
0°-40°	7958.5	55.0
0°-60°	12482.7	86.2
0°-90°	14475.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14475.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7373	7373	7373	7373	7373	
5°	7246	7237	7237	7228	7228	688
15°	6777	6777	6708	6640	6615	1905
25°	5873	5839	5745	5541	5387	2696
35°	4765	4731	4501	4160	4058	2979
45°	3657	3580	3273	3000	2881	2817
55°	2540	2464	2233	1969	1867	2278
65°	1509	1424	1287	1313	1091	1487
75°	605	563	528	503	554	649
85°	85	94	102	111	119	118
90°	0	0	0	0	0	



TEST NUMBER: P563816

CATALOG NUMBER: FSR-24-4-LD4-4HI-50-UNV-93-88-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7373.4	7373.4	7373.4	7373.4	7373.4
2.5°	7322.2	7322.2	7322.2	7313.7	7313.7
5°	7245.5	7237.0	7237.0	7228.5	7228.5
7.5°	7185.8	7177.3	7168.8	7160.3	7143.2
10°	7100.6	7100.6	7092.1	7049.5	7040.9
12.5°	6964.2	6955.7	6921.6	6861.9	6844.9
15°	6776.7	6776.7	6708.5	6640.3	6614.7
17.5°	6572.1	6563.6	6478.3	6410.1	6376.0
20°	6350.5	6333.4	6248.2	6137.4	6077.7
22.5°	6103.3	6103.3	6001.0	5856.1	5796.4
25°	5873.1	5839.0	5745.3	5540.7	5387.2
27.5°	5608.9	5557.7	5455.4	5165.6	4986.6
30°	5319.1	5293.5	5148.6	4773.5	4637.1
32.5°	5046.3	5003.7	4850.2	4458.1	4347.3
35°	4765.0	4730.9	4500.7	4159.8	4057.5
37.5°	4483.7	4441.1	4151.3	3878.5	3750.6
40°	4202.4	4151.3	3835.9	3588.7	3452.3
42.5°	3938.1	3870.0	3563.1	3298.8	3145.4
45°	3656.9	3580.1	3273.3	3000.5	2881.2
47.5°	3375.6	3307.4	3026.1	2744.8	2608.4
50°	3077.2	3017.5	2761.8	2480.5	2335.6
52.5°	2830.0	2736.2	2489.0	2207.7	2088.4
55°	2540.2	2463.5	2233.3	1969.1	1866.8
57.5°	2275.9	2199.2	1986.1	1738.9	1653.7
60°	2028.7	1917.9	1738.9	1525.8	1457.6
62.5°	1756.0	1670.7	1517.3	1338.3	1423.5
65°	1508.8	1423.5	1287.1	1312.7	1091.1
67.5°	1236.0	1193.4	1074.0	954.7	920.6
70°	1005.8	954.7	912.1	784.2	750.1
72.5°	801.3	750.1	690.5	622.3	596.7
75°	605.2	562.6	528.5	502.9	554.1
77.5°	417.7	400.6	375.1	349.5	341.0
80°	272.8	264.2	255.7	247.2	238.7
82.5°	162.0	162.0	162.0	162.0	162.0
85°	85.2	93.8	102.3	110.8	119.3
87.5°	51.1	51.1	59.7	68.2	76.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)