

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: P563687

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563687
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-35-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17988.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

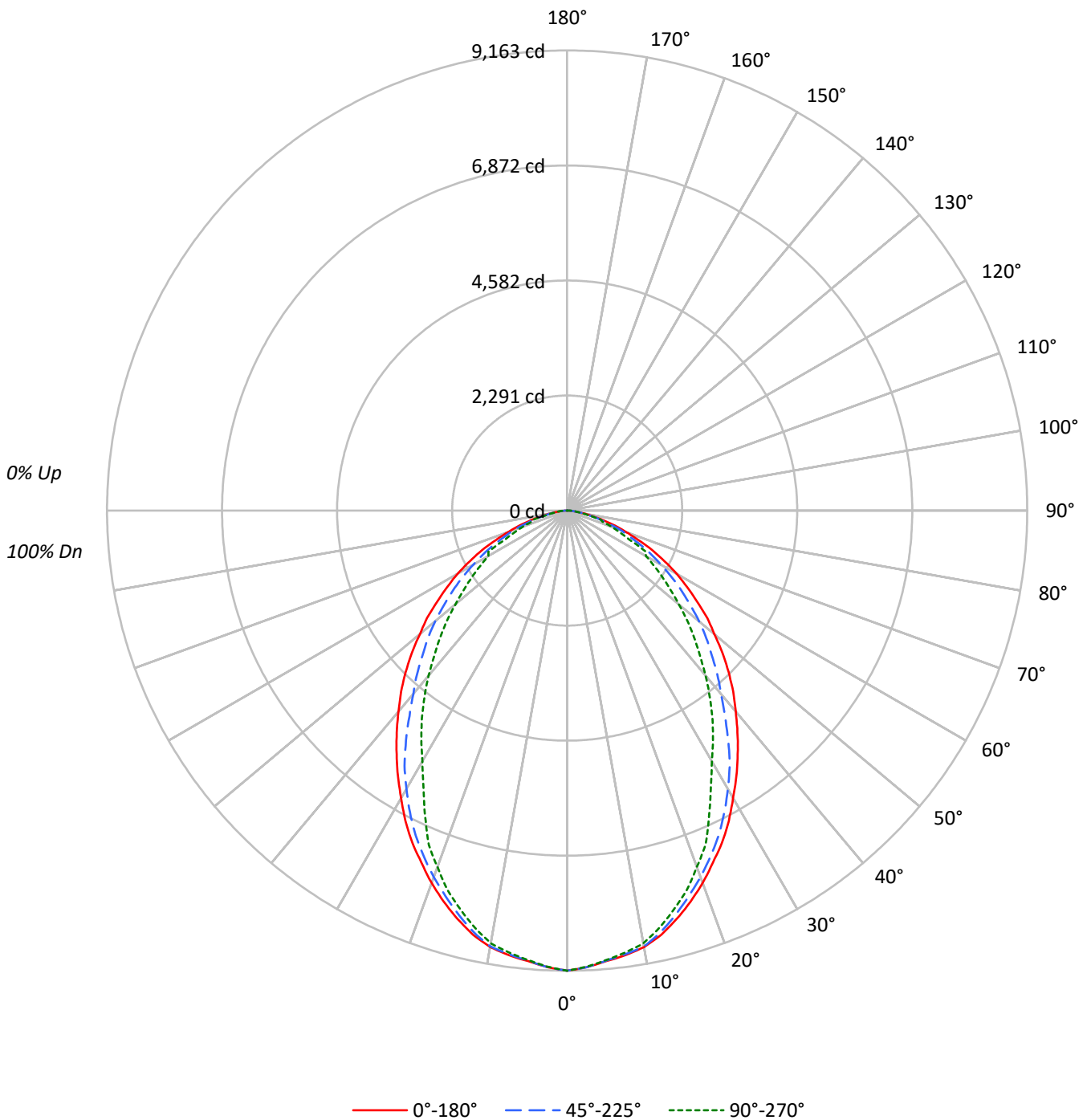
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563687

CATALOG NUMBER: FSR-24-4-LD4-4HI-35-UNV-93-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P563687

CATALOG NUMBER: FSR-24-4-LD4-4HI-35-UNV-93-87-EDD

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°	12328	12328	12328
5°	12161	12147	12132
10°	12056	12041	11954
15°	11730	11612	11450
20°	11300	11118	10814
25°	10835	10599	9939
30°	10270	9940	8953
35°	9726	9187	8282
40°	9173	8372	7535
45°	8647	7740	6813
50°	8004	7184	6076
55°	7405	6510	5442
60°	6784	5815	4874
65°	5969	5092	4317
70°	4917	4459	3667
75°	3910	3414	3579
80°	2627	2462	2298
85°	1635	1962	2289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8647 cd/sqm



TEST NUMBER: P563687

CATALOG NUMBER: FSR-24-4-LD4-4HI-35-UNV-93-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	852.9	4.7
10°-20°	2340.8	13.0
20°-30°	3240.7	18.0
30°-40°	3455.5	19.2
40°-50°	3152.4	17.5
50°-60°	2469.7	13.7
60°-70°	1609.6	8.9
70°-80°	713.1	4.0
80°-90°	153.1	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°	6434.5	35.8
0°-40°	9890.0	55.0
0°-60°	15512.1	86.2
0°-90°	17988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9163	9163	9163	9163	9163	
5°	9004	8993	8993	8983	8983	855
15°	8421	8421	8337	8252	8220	2367
25°	7298	7256	7140	6885	6695	3351
35°	5921	5879	5593	5169	5042	3702
45°	4544	4449	4068	3729	3580	3500
55°	3157	3061	2775	2447	2320	2831
65°	1875	1769	1600	1631	1356	1848
75°	752	699	657	625	688	806
85°	106	116	127	138	148	147
90°	0	0	0	0	0	



TEST NUMBER: P563687

CATALOG NUMBER: FSR-24-4-LD4-4HI-35-UNV-93-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9162.8	9162.8	9162.8	9162.8	9162.8
2.5°	9099.3	9099.3	9099.3	9088.7	9088.7
5°	9004.0	8993.4	8993.4	8982.8	8982.8
7.5°	8929.8	8919.2	8908.6	8898.0	8876.8
10°	8823.9	8823.9	8813.3	8760.3	8749.7
12.5°	8654.4	8643.8	8601.4	8527.3	8506.1
15°	8421.3	8421.3	8336.6	8251.9	8220.1
17.5°	8167.1	8156.5	8050.6	7965.9	7923.5
20°	7891.7	7870.5	7764.6	7626.9	7552.7
22.5°	7584.5	7584.5	7457.4	7277.3	7203.2
25°	7298.5	7256.1	7139.6	6885.4	6694.7
27.5°	6970.1	6906.6	6779.4	6419.3	6196.8
30°	6610.0	6578.2	6398.1	5932.0	5762.5
32.5°	6271.0	6218.0	6027.4	5540.1	5402.4
35°	5921.4	5879.1	5593.0	5169.3	5042.2
37.5°	5571.9	5518.9	5158.7	4819.8	4660.9
40°	5222.3	5158.7	4766.8	4459.6	4290.1
42.5°	4893.9	4809.2	4427.8	4099.4	3908.8
45°	4544.3	4449.0	4067.7	3728.7	3580.4
47.5°	4194.8	4110.0	3760.5	3410.9	3241.4
50°	3824.0	3749.9	3432.1	3082.5	2902.5
52.5°	3516.8	3400.3	3093.1	2743.6	2595.3
55°	3156.7	3061.3	2775.3	2447.0	2319.8
57.5°	2828.3	2733.0	2468.1	2160.9	2055.0
60°	2521.1	2383.4	2160.9	1896.1	1811.4
62.5°	2182.1	2076.2	1885.5	1663.1	1769.0
65°	1874.9	1769.0	1599.5	1631.3	1355.9
67.5°	1536.0	1483.0	1334.7	1186.4	1144.0
70°	1250.0	1186.4	1133.4	974.5	932.2
72.5°	995.7	932.2	858.0	773.3	741.5
75°	752.1	699.1	656.8	625.0	688.5
77.5°	519.1	497.9	466.1	434.3	423.7
80°	339.0	328.4	317.8	307.2	296.6
82.5°	201.3	201.3	201.3	201.3	201.3
85°	105.9	116.5	127.1	137.7	148.3
87.5°	63.6	63.6	74.2	84.7	95.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)