

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: P563090

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563090
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-LD4-3HI-35-UNV-82-85-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10953.1 lumens
Efficiency: N/A
Efficacy: 84.5 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

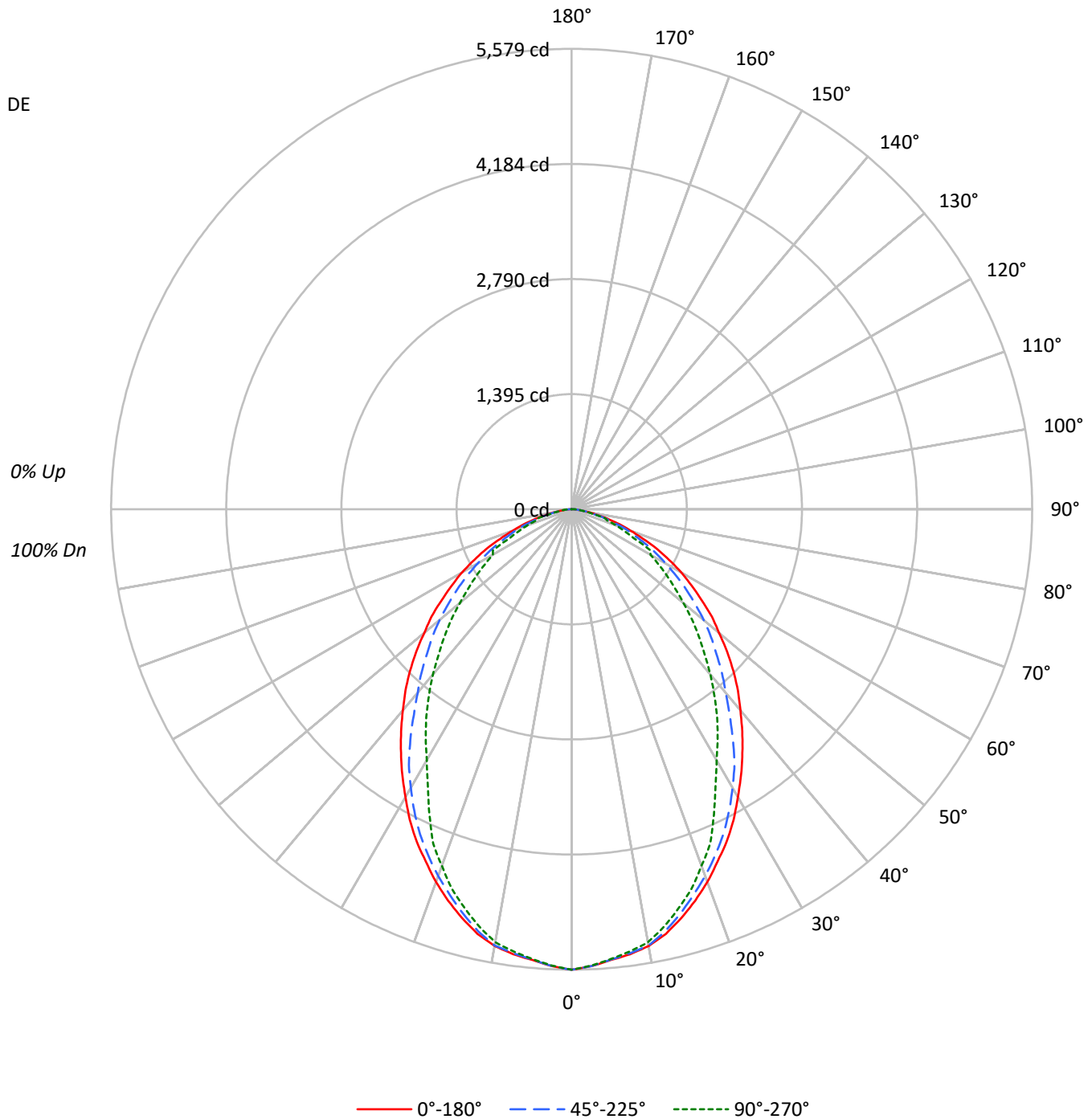
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563090

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-82-85-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563090

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-82-85-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°	7507	7507	7507
5°	7405	7396	7388
10°	7341	7332	7279
15°	7143	7071	6972
20°	6880	6770	6585
25°	6598	6454	6052
30°	6253	6053	5451
35°	5922	5594	5043
40°	5585	5098	4588
45°	5265	4713	4148
50°	4874	4374	3699
55°	4509	3964	3314
60°	4131	3541	2968
65°	3635	3101	2628
70°	2994	2715	2233
75°	2381	2079	2180
80°	1599	1499	1399
85°	996	1195	1394

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5265 cd/sqm



TEST NUMBER: P563090

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-82-85-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	519.4	4.7
10°-20°	1425.3	13.0
20°-30°	1973.3	18.0
30°-40°	2104.1	19.2
40°-50°	1919.5	17.5
50°-60°	1503.8	13.7
60°-70°	980.1	8.9
70°-80°	434.3	4.0
80°-90°	93.3	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°	3918.0	35.8
0°-40°	6022.1	55.0
0°-60°	9445.4	86.2
0°-90°	10953.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10953.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5579	5579	5579	5579	5579	
5°	5483	5476	5476	5470	5470	520
15°	5128	5128	5076	5025	5005	1442
25°	4444	4418	4347	4192	4076	2040
35°	3606	3580	3406	3148	3070	2254
45°	2767	2709	2477	2270	2180	2131
55°	1922	1864	1690	1490	1413	1724
65°	1142	1077	974	993	826	1125
75°	458	426	400	381	419	491
85°	64	71	77	84	90	89
90°	0	0	0	0	0	



TEST NUMBER: P563090

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-82-85-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5579.3	5579.3	5579.3	5579.3	5579.3
2.5°	5540.6	5540.6	5540.6	5534.2	5534.2
5°	5482.6	5476.1	5476.1	5469.7	5469.7
7.5°	5437.4	5431.0	5424.5	5418.1	5405.2
10°	5372.9	5372.9	5366.5	5334.2	5327.8
12.5°	5269.7	5263.3	5237.5	5192.3	5179.4
15°	5127.8	5127.8	5076.2	5024.6	5005.3
17.5°	4973.0	4966.6	4902.1	4850.5	4824.7
20°	4805.3	4792.4	4727.9	4644.1	4598.9
22.5°	4618.3	4618.3	4540.9	4431.2	4386.0
25°	4444.1	4418.3	4347.3	4192.5	4076.4
27.5°	4244.1	4205.4	4128.0	3908.7	3773.3
30°	4024.8	4005.5	3895.8	3612.0	3508.8
32.5°	3818.4	3786.2	3670.1	3373.4	3289.5
35°	3605.6	3579.8	3405.6	3147.6	3070.2
37.5°	3392.7	3360.5	3141.2	2934.8	2838.0
40°	3179.9	3141.2	2902.5	2715.5	2612.3
42.5°	2979.9	2928.3	2696.1	2496.2	2380.1
45°	2767.1	2709.0	2476.8	2270.4	2180.1
47.5°	2554.2	2502.6	2289.8	2076.9	1973.7
50°	2328.5	2283.3	2089.8	1877.0	1767.3
52.5°	2141.4	2070.5	1883.4	1670.6	1580.3
55°	1922.1	1864.1	1689.9	1490.0	1412.6
57.5°	1722.2	1664.1	1502.9	1315.8	1251.3
60°	1535.1	1451.3	1315.8	1154.6	1103.0
62.5°	1328.7	1264.2	1148.1	1012.7	1077.2
65°	1141.7	1077.2	974.0	993.3	825.6
67.5°	935.3	903.0	812.7	722.4	696.6
70°	761.1	722.4	690.2	593.4	567.6
72.5°	606.3	567.6	522.5	470.9	451.5
75°	458.0	425.7	399.9	380.6	419.3
77.5°	316.1	303.2	283.8	264.5	258.0
80°	206.4	200.0	193.5	187.1	180.6
82.5°	122.6	122.6	122.6	122.6	122.6
85°	64.5	71.0	77.4	83.9	90.3
87.5°	38.7	38.7	45.2	51.6	58.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)