

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: P562578

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562578
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-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7405.0 lumens
Efficiency: N/A
Efficacy: 85.7 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

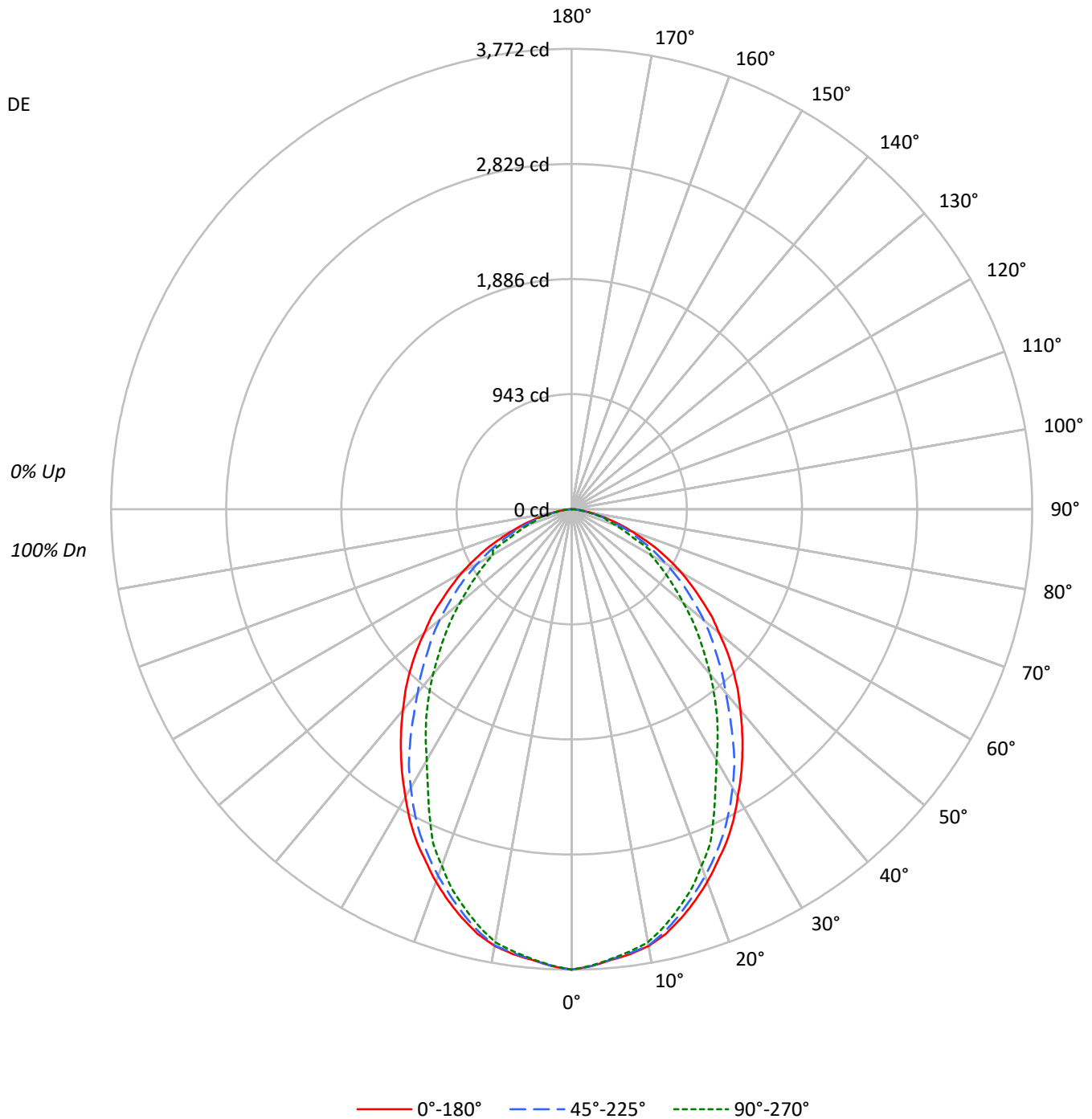
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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°	5075	5075	5075
5°	5006	5000	4994
10°	4963	4957	4921
15°	4829	4780	4714
20°	4652	4577	4452
25°	4460	4363	4092
30°	4228	4092	3686
35°	4004	3782	3409
40°	3776	3447	3102
45°	3560	3186	2805
50°	3295	2957	2501
55°	3048	2680	2240
60°	2793	2394	2007
65°	2457	2096	1777
70°	2024	1836	1509
75°	1609	1406	1473
80°	1081	1013	946
85°	673	807	942

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3560 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.1	4.7
10°-20°	963.6	13.0
20°-30°	1334.1	18.0
30°-40°	1422.5	19.2
40°-50°	1297.8	17.5
50°-60°	1016.7	13.7
60°-70°	662.6	8.9
70°-80°	293.6	4.0
80°-90°	63.0	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°	2648.8	35.8
0°-40°	4071.3	55.0
0°-60°	6385.8	86.2
0°-90°	7405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7405.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3772	3772	3772	3772	3772	
5°	3707	3702	3702	3698	3698	352
15°	3467	3467	3432	3397	3384	975
25°	3004	2987	2939	2834	2756	1379
35°	2438	2420	2302	2128	2076	1524
45°	1871	1832	1674	1535	1474	1441
55°	1300	1260	1142	1007	955	1166
65°	772	728	658	672	558	761
75°	310	288	270	257	283	332
85°	44	48	52	57	61	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3772.0	3772.0	3772.0	3772.0	3772.0
2.5°	3745.8	3745.8	3745.8	3741.5	3741.5
5°	3706.6	3702.2	3702.2	3697.9	3697.9
7.5°	3676.1	3671.7	3667.4	3663.0	3654.3
10°	3632.5	3632.5	3628.1	3606.3	3601.9
12.5°	3562.7	3558.3	3540.9	3510.4	3501.6
15°	3466.8	3466.8	3431.9	3397.0	3383.9
17.5°	3362.1	3357.7	3314.1	3279.2	3261.8
20°	3248.7	3240.0	3196.4	3139.7	3109.2
22.5°	3122.3	3122.3	3069.9	2995.8	2965.3
25°	3004.5	2987.1	2939.1	2834.5	2756.0
27.5°	2869.3	2843.2	2790.8	2642.6	2551.0
30°	2721.1	2708.0	2633.9	2442.0	2372.2
32.5°	2581.5	2559.7	2481.2	2280.6	2224.0
35°	2437.6	2420.2	2302.5	2128.0	2075.7
37.5°	2293.7	2271.9	2123.7	1984.1	1918.7
40°	2149.8	2123.7	1962.3	1835.9	1766.1
42.5°	2014.6	1979.8	1822.8	1687.6	1609.1
45°	1870.7	1831.5	1674.5	1535.0	1473.9
47.5°	1726.8	1692.0	1548.0	1404.1	1334.4
50°	1574.2	1543.7	1412.9	1269.0	1194.8
52.5°	1447.8	1399.8	1273.3	1129.4	1068.4
55°	1299.5	1260.2	1142.5	1007.3	955.0
57.5°	1164.3	1125.1	1016.0	889.6	846.0
60°	1037.8	981.2	889.6	780.6	745.7
62.5°	898.3	854.7	776.2	684.6	728.2
65°	771.8	728.2	658.5	671.5	558.2
67.5°	632.3	610.5	549.4	488.4	471.0
70°	514.6	488.4	466.6	401.2	383.7
72.5°	409.9	383.7	353.2	318.3	305.2
75°	309.6	287.8	270.4	257.3	283.4
77.5°	213.7	205.0	191.9	178.8	174.4
80°	139.5	135.2	130.8	126.5	122.1
82.5°	82.9	82.9	82.9	82.9	82.9
85°	43.6	48.0	52.3	56.7	61.0
87.5°	26.2	26.2	30.5	34.9	39.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)