

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: P563860

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563860
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-LD4-4LO-35-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8790.0 lumens
Efficiency: N/A
Efficacy: 93.9 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

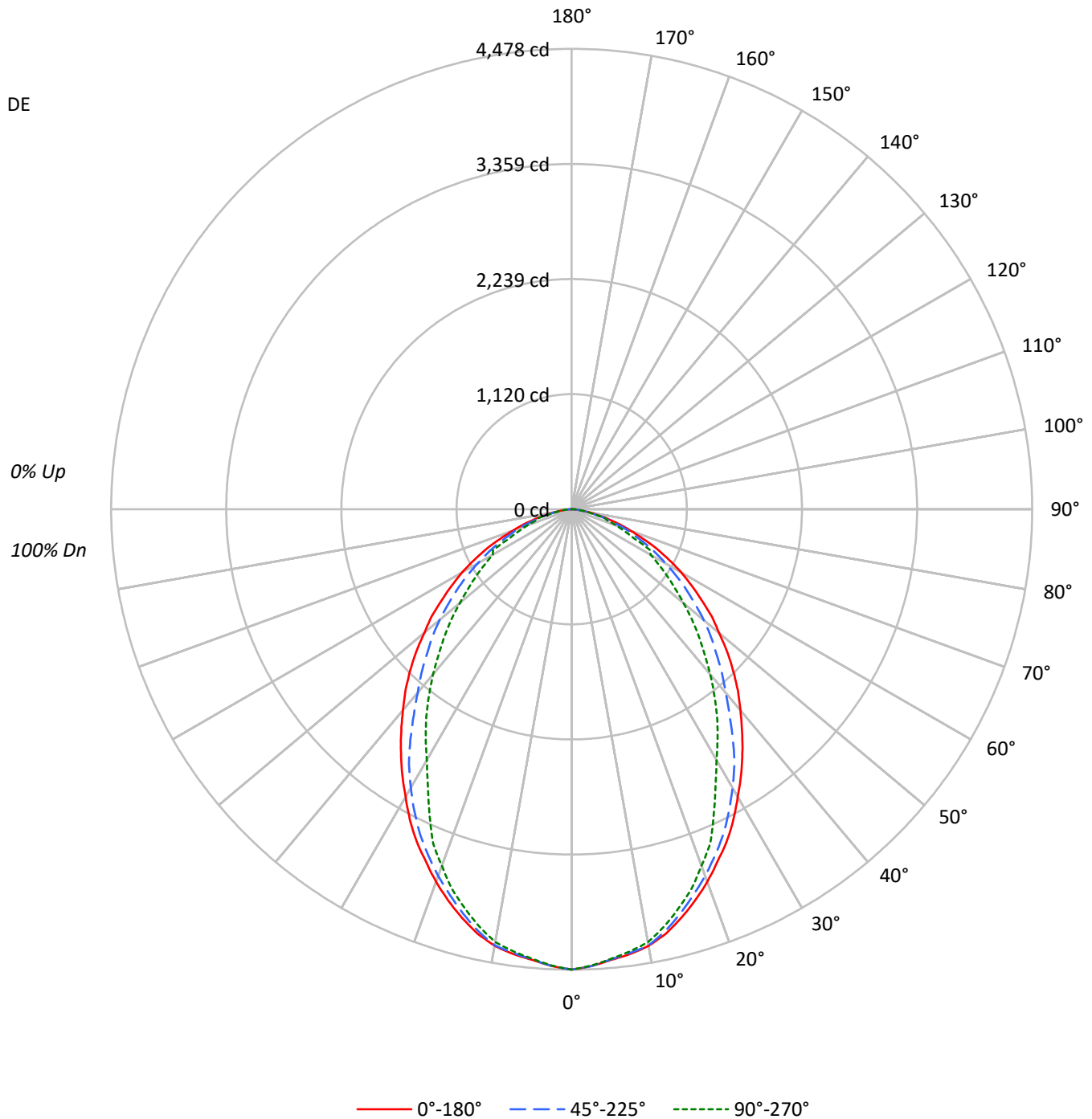
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563860

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563860

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-86-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	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°	6024	6024	6024
5°	5943	5936	5929
10°	5891	5884	5842
15°	5732	5675	5595
20°	5522	5433	5284
25°	5295	5179	4857
30°	5018	4857	4375
35°	4753	4489	4047
40°	4482	4091	3682
45°	4225	3782	3329
50°	3911	3511	2969
55°	3618	3181	2659
60°	3315	2842	2382
65°	2917	2488	2110
70°	2403	2179	1792
75°	1910	1668	1749
80°	1283	1203	1123
85°	800	959	1119

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4225 cd/sqm



TEST NUMBER: P563860

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	416.8	4.7
10°-20°	1143.9	13.0
20°-30°	1583.6	18.0
30°-40°	1688.6	19.2
40°-50°	1540.5	17.5
50°-60°	1206.8	13.7
60°-70°	786.6	8.9
70°-80°	348.5	4.0
80°-90°	74.8	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°	3144.3	35.8
0°-40°	4832.8	55.0
0°-60°	7580.2	86.2
0°-90°	8790.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8790.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4478	4478	4478	4478	4478	
5°	4400	4395	4395	4390	4390	418
15°	4115	4115	4074	4032	4017	1157
25°	3566	3546	3489	3365	3271	1637
35°	2894	2873	2733	2526	2464	1809
45°	2221	2174	1988	1822	1750	1711
55°	1542	1496	1356	1196	1134	1384
65°	916	864	782	797	663	903
75°	368	342	321	305	336	394
85°	52	57	62	67	72	72
90°	0	0	0	0	0	



TEST NUMBER: P563860

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4477.5	4477.5	4477.5	4477.5	4477.5
2.5°	4446.5	4446.5	4446.5	4441.3	4441.3
5°	4399.9	4394.7	4394.7	4389.5	4389.5
7.5°	4363.6	4358.5	4353.3	4348.1	4337.7
10°	4311.9	4311.9	4306.7	4280.8	4275.6
12.5°	4229.0	4223.9	4203.2	4166.9	4156.6
15°	4115.2	4115.2	4073.8	4032.3	4016.8
17.5°	3990.9	3985.8	3934.0	3892.6	3871.9
20°	3856.4	3846.0	3794.2	3726.9	3690.7
22.5°	3706.2	3706.2	3644.1	3556.1	3519.9
25°	3566.5	3545.8	3488.8	3364.6	3271.4
27.5°	3406.0	3375.0	3312.8	3136.8	3028.1
30°	3230.0	3214.5	3126.5	2898.7	2815.9
32.5°	3064.4	3038.5	2945.3	2707.2	2639.9
35°	2893.6	2872.9	2733.1	2526.0	2463.9
37.5°	2722.7	2696.9	2520.9	2355.2	2277.6
40°	2551.9	2520.9	2329.3	2179.2	2096.4
42.5°	2391.5	2350.0	2163.7	2003.2	1910.1
45°	2220.6	2174.1	1987.7	1822.1	1749.6
47.5°	2049.8	2008.4	1837.6	1666.8	1584.0
50°	1868.6	1832.4	1677.1	1506.3	1418.3
52.5°	1718.5	1661.6	1511.5	1340.7	1268.2
55°	1542.5	1496.0	1356.2	1195.7	1133.6
57.5°	1382.1	1335.5	1206.1	1056.0	1004.2
60°	1232.0	1164.7	1056.0	926.6	885.1
62.5°	1066.3	1014.6	921.4	812.7	864.4
65°	916.2	864.4	781.6	797.2	662.6
67.5°	750.6	724.7	652.2	579.7	559.0
70°	610.8	579.7	553.9	476.2	455.5
72.5°	486.6	455.5	419.3	377.9	362.3
75°	367.5	341.6	320.9	305.4	336.5
77.5°	253.6	243.3	227.8	212.2	207.1
80°	165.6	160.5	155.3	150.1	144.9
82.5°	98.3	98.3	98.3	98.3	98.3
85°	51.8	56.9	62.1	67.3	72.5
87.5°	31.1	31.1	36.2	41.4	46.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)