

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: P563862

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563862
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-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8505.0 lumens
Efficiency: N/A
Efficacy: 90.9 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

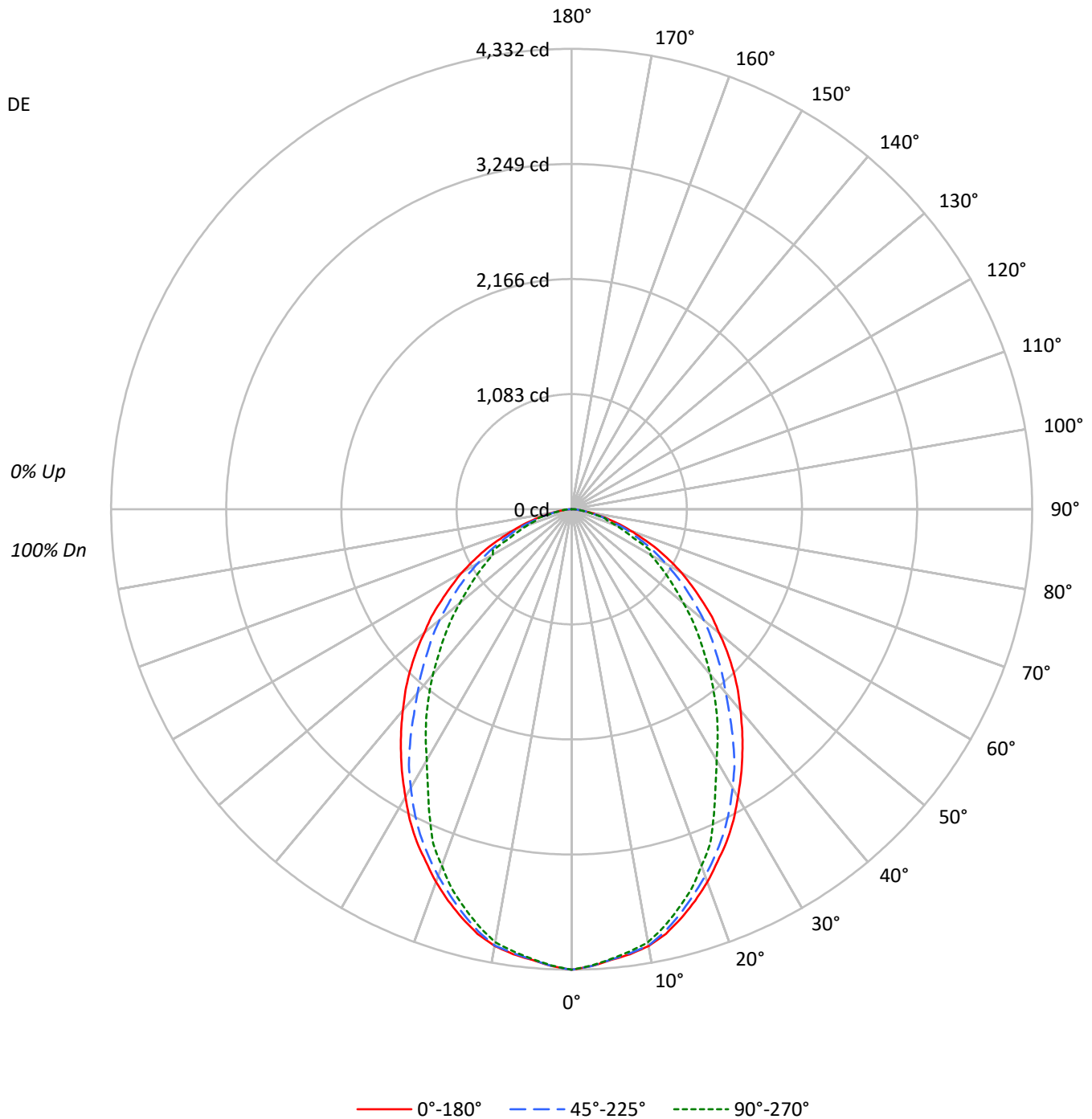
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563862

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-87-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563862

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-87-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°	5829	5829	5829
5°	5750	5743	5736
10°	5700	5693	5652
15°	5546	5491	5414
20°	5343	5257	5113
25°	5123	5012	4699
30°	4856	4700	4233
35°	4599	4344	3916
40°	4337	3959	3563
45°	4088	3660	3221
50°	3785	3397	2873
55°	3501	3078	2573
60°	3208	2749	2305
65°	2822	2408	2041
70°	2325	2108	1734
75°	1849	1614	1693
80°	1242	1165	1086
85°	773	928	1082

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4088 cd/sqm



TEST NUMBER: P563862

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-87-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	403.3	4.7
10°-20°	1106.8	13.0
20°-30°	1532.3	18.0
30°-40°	1633.8	19.2
40°-50°	1490.5	17.5
50°-60°	1167.7	13.7
60°-70°	761.0	8.9
70°-80°	337.2	4.0
80°-90°	72.4	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°	3042.3	35.8
0°-40°	4676.1	55.0
0°-60°	7334.4	86.2
0°-90°	8505.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8505.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4332	4332	4332	4332	4332	
5°	4257	4252	4252	4247	4247	404
15°	3982	3982	3942	3902	3887	1119
25°	3451	3431	3376	3256	3165	1584
35°	2800	2780	2644	2444	2384	1750
45°	2149	2104	1923	1763	1693	1655
55°	1492	1448	1312	1157	1097	1339
65°	886	836	756	771	641	874
75°	356	331	310	296	326	381
85°	50	55	60	65	70	70
90°	0	0	0	0	0	



TEST NUMBER: P563862

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-82-87-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4332.3	4332.3	4332.3	4332.3	4332.3
2.5°	4302.3	4302.3	4302.3	4297.3	4297.3
5°	4257.2	4252.2	4252.2	4247.2	4247.2
7.5°	4222.1	4217.1	4212.1	4207.1	4197.1
10°	4172.1	4172.1	4167.1	4142.0	4137.0
12.5°	4091.9	4086.9	4066.9	4031.8	4021.8
15°	3981.7	3981.7	3941.7	3901.6	3886.6
17.5°	3861.5	3856.5	3806.4	3766.4	3746.3
20°	3731.3	3721.3	3671.2	3606.1	3571.0
22.5°	3586.1	3586.1	3526.0	3440.8	3405.8
25°	3450.8	3430.8	3375.7	3255.5	3165.4
27.5°	3295.6	3265.5	3205.4	3035.1	2930.0
30°	3125.3	3110.3	3025.1	2804.7	2724.6
32.5°	2965.0	2940.0	2849.8	2619.4	2554.3
35°	2799.7	2779.7	2644.5	2444.1	2384.0
37.5°	2634.5	2609.4	2439.1	2278.9	2203.7
40°	2469.2	2439.1	2253.8	2108.6	2028.4
42.5°	2313.9	2273.8	2093.5	1938.3	1848.1
45°	2148.6	2103.6	1923.3	1763.0	1692.9
47.5°	1983.4	1943.3	1778.0	1612.7	1532.6
50°	1808.1	1773.0	1622.7	1457.5	1372.3
52.5°	1662.8	1607.7	1462.5	1297.2	1227.1
55°	1492.5	1447.5	1312.2	1157.0	1096.9
57.5°	1337.3	1292.2	1167.0	1021.7	971.6
60°	1192.0	1126.9	1021.7	896.5	856.4
62.5°	1031.7	981.7	891.5	786.3	836.4
65°	886.5	836.4	756.3	771.3	641.1
67.5°	726.2	701.2	631.1	560.9	540.9
70°	591.0	560.9	535.9	460.8	440.7
72.5°	470.8	440.7	405.7	365.6	350.6
75°	355.6	330.6	310.5	295.5	325.6
77.5°	245.4	235.4	220.4	205.3	200.3
80°	160.3	155.3	150.3	145.2	140.2
82.5°	95.2	95.2	95.2	95.2	95.2
85°	50.1	55.1	60.1	65.1	70.1
87.5°	30.1	30.1	35.1	40.1	45.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)