

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: P563524

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563524
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-LD4-3STD-40-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9146.0 lumens
Efficiency: N/A
Efficacy: 91.6 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

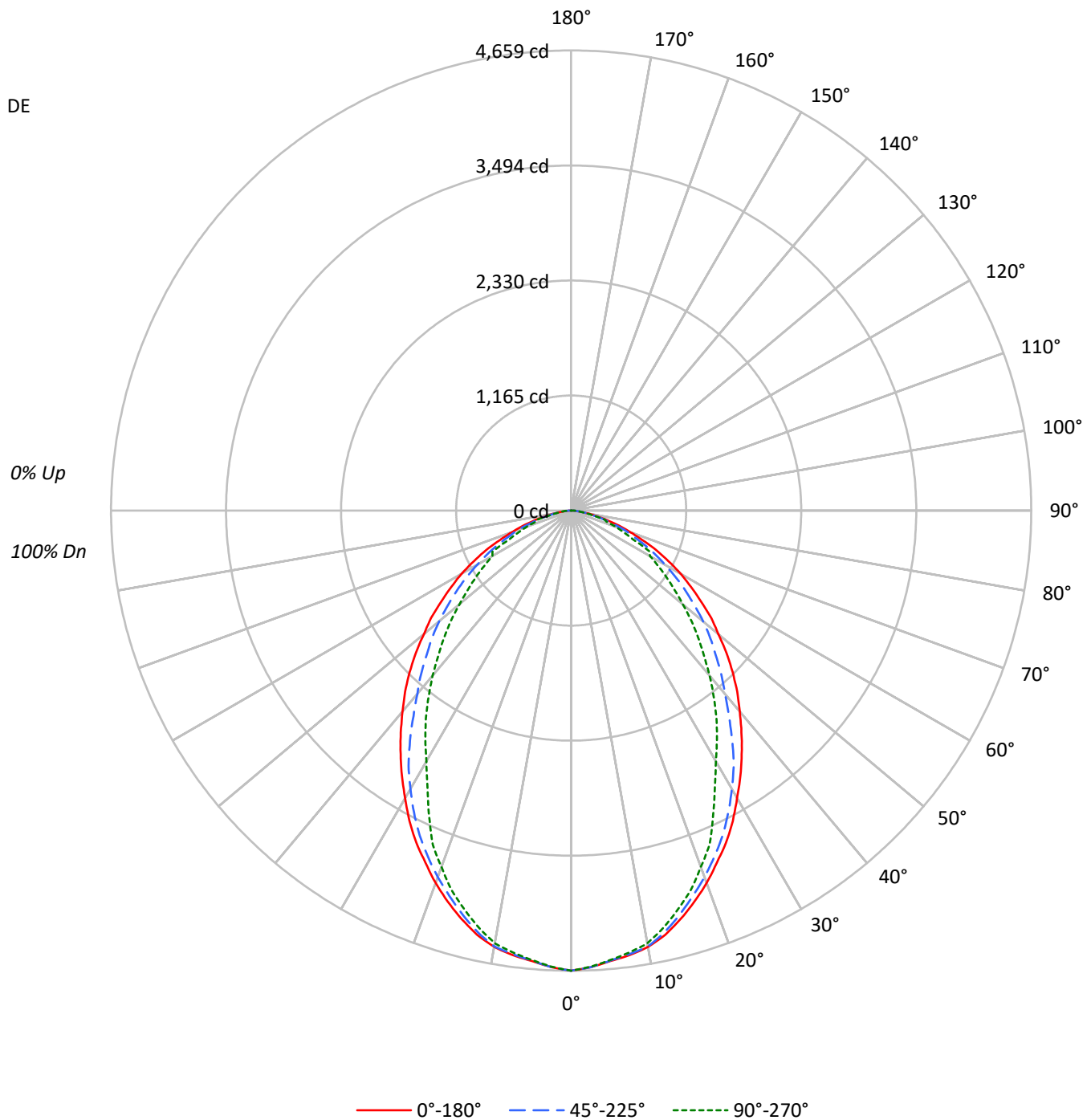
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6269	6269	6269
5°	6183	6176	6169
10°	6130	6122	6078
15°	5964	5904	5822
20°	5745	5653	5499
25°	5509	5389	5053
30°	5221	5054	4552
35°	4945	4671	4211
40°	4664	4257	3831
45°	4397	3935	3464
50°	4070	3653	3089
55°	3765	3310	2767
60°	3450	2957	2478
65°	3035	2589	2195
70°	2500	2267	1865
75°	1988	1736	1820
80°	1336	1252	1168
85°	832	997	1164

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4397 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	433.7	4.7
10°-20°	1190.2	13.0
20°-30°	1647.7	18.0
30°-40°	1757.0	19.2
40°-50°	1602.9	17.5
50°-60°	1255.7	13.7
60°-70°	818.4	8.9
70°-80°	362.6	4.0
80°-90°	77.8	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°	3271.6	35.8
0°-40°	5028.6	55.0
0°-60°	7887.1	86.2
0°-90°	9146.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9146.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4659	4659	4659	4659	4659	
5°	4578	4573	4573	4567	4567	435
15°	4282	4282	4239	4196	4180	1204
25°	3711	3689	3630	3501	3404	1704
35°	3011	2989	2844	2628	2564	1882
45°	2311	2262	2068	1896	1820	1780
55°	1605	1556	1411	1244	1180	1440
65°	953	900	813	829	689	939
75°	382	356	334	318	350	410
85°	54	59	65	70	75	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4658.9	4658.9	4658.9	4658.9	4658.9
2.5°	4626.5	4626.5	4626.5	4621.1	4621.1
5°	4578.1	4572.7	4572.7	4567.3	4567.3
7.5°	4540.4	4535.0	4529.6	4524.2	4513.4
10°	4486.5	4486.5	4481.1	4454.2	4448.8
12.5°	4400.3	4394.9	4373.4	4335.7	4324.9
15°	4281.8	4281.8	4238.7	4195.7	4179.5
17.5°	4152.6	4147.2	4093.3	4050.2	4028.7
20°	4012.5	4001.8	3947.9	3877.9	3840.2
22.5°	3856.3	3856.3	3791.7	3700.2	3662.4
25°	3710.9	3689.4	3630.1	3500.9	3403.9
27.5°	3544.0	3511.6	3447.0	3263.9	3150.8
30°	3360.8	3344.7	3253.1	3016.1	2930.0
32.5°	3188.5	3161.6	3064.6	2816.9	2746.8
35°	3010.7	2989.2	2843.8	2628.3	2563.7
37.5°	2833.0	2806.1	2623.0	2450.6	2369.8
40°	2655.3	2623.0	2423.7	2267.5	2181.3
42.5°	2488.3	2445.2	2251.3	2084.4	1987.4
45°	2310.6	2262.1	2068.2	1895.9	1820.5
47.5°	2132.8	2089.8	1912.0	1734.3	1648.1
50°	1944.3	1906.6	1745.0	1567.3	1475.8
52.5°	1788.1	1728.9	1572.7	1395.0	1319.6
55°	1605.0	1556.5	1411.1	1244.2	1179.5
57.5°	1438.0	1389.6	1254.9	1098.7	1044.9
60°	1281.9	1211.8	1098.7	964.1	921.0
62.5°	1109.5	1055.6	958.7	845.6	899.5
65°	953.3	899.5	813.3	829.4	689.4
67.5°	781.0	754.0	678.6	603.2	581.7
70°	635.5	603.2	576.3	495.5	474.0
72.5°	506.3	474.0	436.3	393.2	377.0
75°	382.4	355.5	333.9	317.8	350.1
77.5°	263.9	253.1	237.0	220.8	215.4
80°	172.4	167.0	161.6	156.2	150.8
82.5°	102.3	102.3	102.3	102.3	102.3
85°	53.9	59.2	64.6	70.0	75.4
87.5°	32.3	32.3	37.7	43.1	48.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)