

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: P563656

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563656
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-LD4-4HI-35-UNV-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12851.0 lumens
Efficiency: N/A
Efficacy: 74.4 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

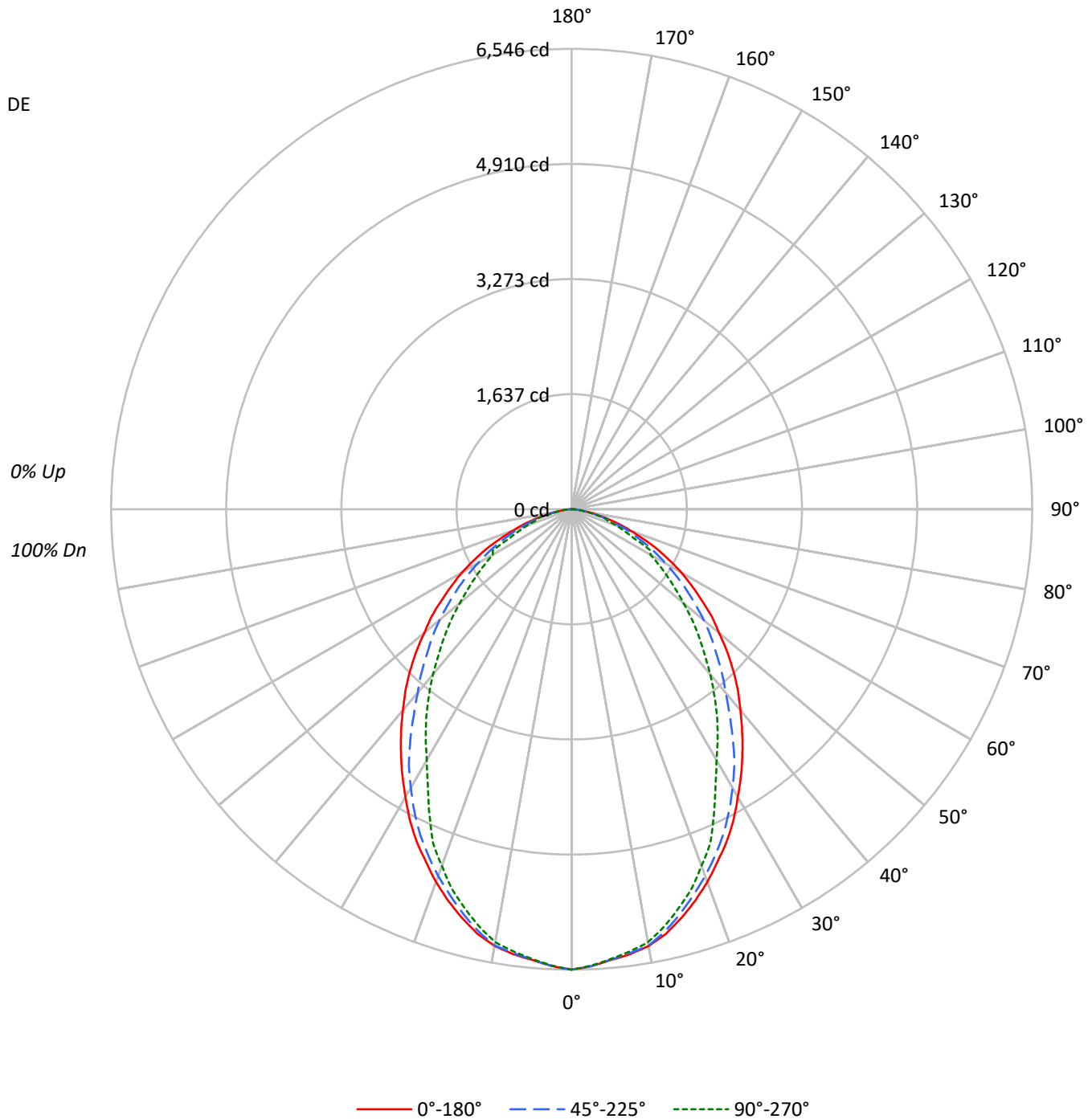
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8808	8808	8808
5°	8688	8678	8668
10°	8613	8602	8540
15°	8381	8296	8180
20°	8073	7943	7726
25°	7741	7572	7100
30°	7337	7102	6396
35°	6949	6563	5917
40°	6553	5981	5383
45°	6178	5530	4867
50°	5719	5133	4340
55°	5290	4651	3888
60°	4847	4154	3482
65°	4265	3638	3084
70°	3513	3186	2620
75°	2793	2439	2557
80°	1877	1759	1642
85°	1169	1402	1635

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6178 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	609.4	4.7
10°-20°	1672.3	13.0
20°-30°	2315.2	18.0
30°-40°	2468.7	19.2
40°-50°	2252.2	17.5
50°-60°	1764.4	13.7
60°-70°	1149.9	8.9
70°-80°	509.5	4.0
80°-90°	109.4	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°	4596.9	35.8
0°-40°	7065.6	55.0
0°-60°	11082.2	86.2
0°-90°	12851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12851.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6546	6546	6546	6546	6546	
5°	6433	6425	6425	6418	6418	611
15°	6016	6016	5956	5895	5873	1691
25°	5214	5184	5101	4919	4783	2394
35°	4230	4200	3996	3693	3602	2645
45°	3247	3178	2906	2664	2558	2501
55°	2255	2187	1983	1748	1657	2023
65°	1340	1264	1143	1165	969	1320
75°	537	500	469	446	492	576
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6546.1	6546.1	6546.1	6546.1	6546.1
2.5°	6500.7	6500.7	6500.7	6493.2	6493.2
5°	6432.6	6425.0	6425.0	6417.5	6417.5
7.5°	6379.6	6372.1	6364.5	6356.9	6341.8
10°	6304.0	6304.0	6296.4	6258.6	6251.0
12.5°	6182.9	6175.3	6145.0	6092.1	6076.9
15°	6016.4	6016.4	5955.8	5895.3	5872.6
17.5°	5834.8	5827.2	5751.5	5691.0	5660.7
20°	5638.0	5622.9	5547.2	5448.8	5395.8
22.5°	5418.5	5418.5	5327.7	5199.1	5146.1
25°	5214.2	5183.9	5100.7	4919.1	4782.8
27.5°	4979.6	4934.2	4843.4	4586.1	4427.1
30°	4722.3	4699.6	4570.9	4238.0	4116.9
32.5°	4480.1	4442.3	4306.1	3957.9	3859.6
35°	4230.4	4200.1	3995.8	3693.1	3602.3
37.5°	3980.7	3942.8	3685.5	3443.3	3329.8
40°	3730.9	3685.5	3405.5	3186.0	3064.9
42.5°	3496.3	3435.8	3163.3	2928.7	2792.5
45°	3246.6	3178.5	2906.0	2663.9	2557.9
47.5°	2996.8	2936.3	2686.6	2436.8	2315.7
50°	2732.0	2679.0	2452.0	2202.2	2073.6
52.5°	2512.5	2429.3	2209.8	1960.1	1854.1
55°	2255.2	2187.1	1982.8	1748.2	1657.3
57.5°	2020.6	1952.5	1763.3	1543.8	1468.1
60°	1801.1	1702.7	1543.8	1354.6	1294.1
62.5°	1559.0	1483.3	1347.1	1188.1	1263.8
65°	1339.5	1263.8	1142.7	1165.4	968.7
67.5°	1097.3	1059.5	953.5	847.6	817.3
70°	893.0	847.6	809.8	696.2	666.0
72.5°	711.4	666.0	613.0	552.4	529.7
75°	537.3	499.5	469.2	446.5	491.9
77.5°	370.8	355.7	333.0	310.3	302.7
80°	242.2	234.6	227.0	219.5	211.9
82.5°	143.8	143.8	143.8	143.8	143.8
85°	75.7	83.2	90.8	98.4	105.9
87.5°	45.4	45.4	53.0	60.5	68.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)