

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: P563522

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563522
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-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 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: 9251.0 lumens
Efficiency: N/A
Efficacy: 92.6 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

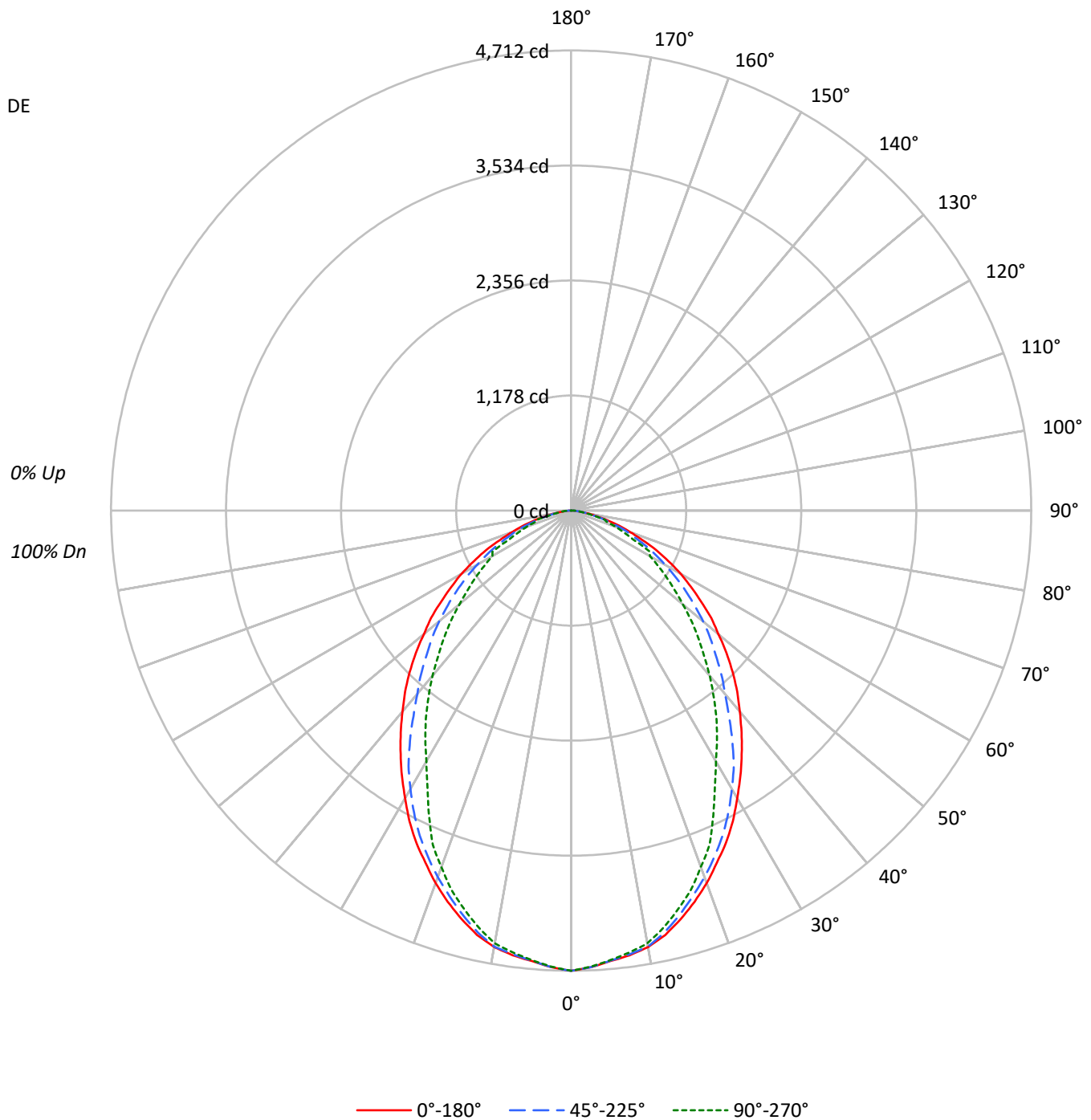
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6340	6340	6340
5°	6254	6247	6240
10°	6200	6193	6148
15°	6033	5972	5889
20°	5811	5718	5562
25°	5572	5451	5111
30°	5281	5112	4604
35°	5002	4725	4259
40°	4717	4306	3875
45°	4447	3981	3504
50°	4117	3695	3125
55°	3808	3348	2799
60°	3489	2990	2507
65°	3070	2619	2220
70°	2529	2293	1886
75°	2011	1756	1841
80°	1351	1266	1182
85°	841	1010	1178

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4447 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	438.7	4.7
10°-20°	1203.8	13.0
20°-30°	1666.7	18.0
30°-40°	1777.1	19.2
40°-50°	1621.3	17.5
50°-60°	1270.1	13.7
60°-70°	827.8	8.9
70°-80°	366.8	4.0
80°-90°	78.7	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°	3309.2	35.8
0°-40°	5086.3	55.0
0°-60°	7977.7	86.2
0°-90°	9251.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9251.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4712	4712	4712	4712	4712	
5°	4631	4625	4625	4620	4620	440
15°	4331	4331	4287	4244	4228	1218
25°	3754	3732	3672	3541	3443	1723
35°	3045	3024	2876	2658	2593	1904
45°	2337	2288	2092	1918	1841	1800
55°	1623	1574	1427	1258	1193	1456
65°	964	910	823	839	697	950
75°	387	360	338	321	354	415
85°	54	60	65	71	76	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4712.3	4712.3	4712.3	4712.3	4712.3
2.5°	4679.6	4679.6	4679.6	4674.2	4674.2
5°	4630.6	4625.2	4625.2	4619.7	4619.7
7.5°	4592.5	4587.0	4581.6	4576.1	4565.2
10°	4538.0	4538.0	4532.6	4505.3	4499.9
12.5°	4450.8	4445.4	4423.6	4385.5	4374.6
15°	4331.0	4331.0	4287.4	4243.8	4227.5
17.5°	4200.2	4194.8	4140.3	4096.7	4074.9
20°	4058.6	4047.7	3993.2	3922.4	3884.3
22.5°	3900.6	3900.6	3835.2	3742.6	3704.5
25°	3753.5	3731.7	3671.8	3541.1	3443.0
27.5°	3584.6	3552.0	3486.6	3301.4	3187.0
30°	3399.4	3383.1	3290.5	3050.8	2963.6
32.5°	3225.1	3197.9	3099.8	2849.2	2778.4
35°	3045.3	3023.5	2876.4	2658.5	2593.1
37.5°	2865.5	2838.3	2653.1	2478.7	2397.0
40°	2685.8	2653.1	2451.5	2293.5	2206.4
42.5°	2516.9	2473.3	2277.2	2108.3	2010.2
45°	2337.1	2288.1	2092.0	1917.6	1841.4
47.5°	2157.3	2113.7	1934.0	1754.2	1667.0
50°	1966.7	1928.5	1765.1	1585.3	1492.7
52.5°	1808.7	1748.7	1590.8	1411.0	1334.7
55°	1623.4	1574.4	1427.3	1258.4	1193.1
57.5°	1454.6	1405.5	1269.3	1111.3	1056.9
60°	1296.6	1225.8	1111.3	975.2	931.6
62.5°	1122.2	1067.8	969.7	855.3	909.8
65°	964.3	909.8	822.6	839.0	697.3
67.5°	789.9	762.7	686.4	610.2	588.4
70°	642.8	610.2	582.9	501.2	479.4
72.5°	512.1	479.4	441.3	397.7	381.3
75°	386.8	359.6	337.8	321.4	354.1
77.5°	266.9	256.0	239.7	223.4	217.9
80°	174.3	168.9	163.4	158.0	152.5
82.5°	103.5	103.5	103.5	103.5	103.5
85°	54.5	59.9	65.4	70.8	76.3
87.5°	32.7	32.7	38.1	43.6	49.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)