

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: P562837

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562837
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-LD4-2LO-50-UNV-82-86-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

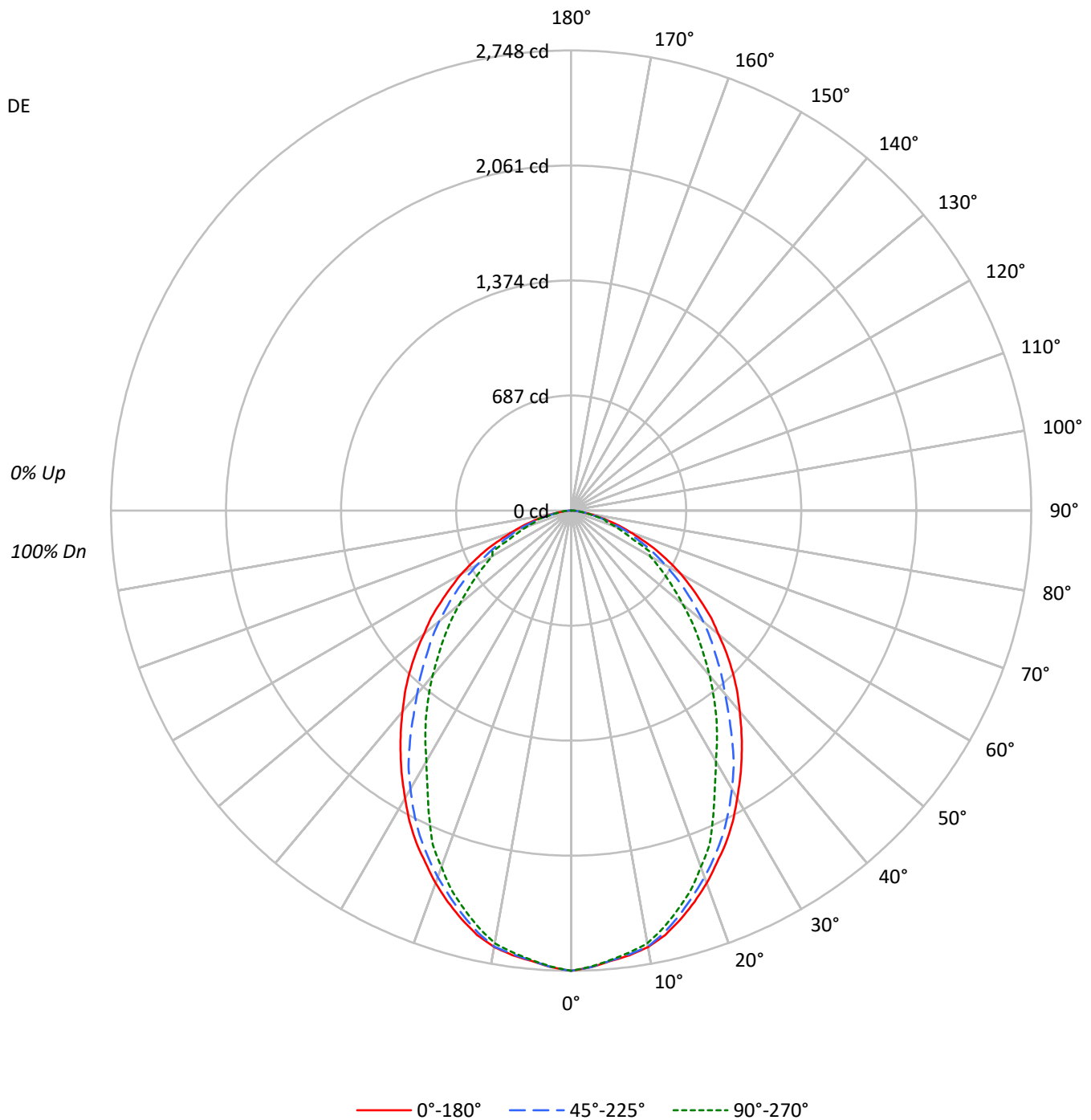
Lumens per Lamp: N/A
Luminaire Lumens: 5395.0 lumens
Efficiency: N/A
Efficacy: 115.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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	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°	3698	3698	3698
5°	3647	3643	3639
10°	3616	3611	3585
15°	3518	3483	3434
20°	3389	3334	3243
25°	3250	3179	2981
30°	3080	2981	2685
35°	2917	2755	2484
40°	2751	2511	2260
45°	2594	2321	2043
50°	2401	2155	1822
55°	2221	1953	1632
60°	2035	1744	1462
65°	1790	1527	1295
70°	1475	1337	1100
75°	1173	1024	1074
80°	788	738	690
85°	491	588	687

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2594 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.8	4.7
10°-20°	702.1	13.0
20°-30°	972.0	18.0
30°-40°	1036.4	19.2
40°-50°	945.5	17.5
50°-60°	740.7	13.7
60°-70°	482.8	8.9
70°-80°	213.9	4.0
80°-90°	45.9	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°	1929.8	35.8
0°-40°	2966.2	55.0
0°-60°	4652.4	86.2
0°-90°	5395.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5395.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2748	2748	2748	2748	2748	
5°	2700	2697	2697	2694	2694	256
15°	2526	2526	2500	2475	2465	710
25°	2189	2176	2141	2065	2008	1005
35°	1776	1763	1678	1550	1512	1110
45°	1363	1334	1220	1118	1074	1050
55°	947	918	832	734	696	849
65°	562	531	480	489	407	554
75°	226	210	197	187	206	242
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2748.1	2748.1	2748.1	2748.1	2748.1
2.5°	2729.1	2729.1	2729.1	2725.9	2725.9
5°	2700.5	2697.3	2697.3	2694.1	2694.1
7.5°	2678.2	2675.1	2671.9	2668.7	2662.4
10°	2646.5	2646.5	2643.3	2627.4	2624.2
12.5°	2595.6	2592.5	2579.8	2557.5	2551.2
15°	2525.7	2525.7	2500.3	2474.9	2465.4
17.5°	2449.5	2446.3	2414.6	2389.1	2376.4
20°	2366.9	2360.5	2328.8	2287.5	2265.2
22.5°	2274.8	2274.8	2236.6	2182.6	2160.4
25°	2189.0	2176.3	2141.3	2065.1	2007.9
27.5°	2090.5	2071.4	2033.3	1925.3	1858.6
30°	1982.5	1972.9	1918.9	1779.1	1728.3
32.5°	1880.8	1864.9	1807.7	1661.6	1620.3
35°	1776.0	1763.3	1677.5	1550.4	1512.3
37.5°	1671.1	1655.2	1547.2	1445.6	1397.9
40°	1566.3	1547.2	1429.7	1337.5	1286.7
42.5°	1467.8	1442.4	1328.0	1229.5	1172.3
45°	1363.0	1334.4	1220.0	1118.3	1073.8
47.5°	1258.1	1232.7	1127.8	1023.0	972.2
50°	1146.9	1124.7	1029.4	924.5	870.5
52.5°	1054.8	1019.8	927.7	822.9	778.4
55°	946.8	918.2	832.4	733.9	695.8
57.5°	848.3	819.7	740.3	648.1	616.3
60°	756.1	714.8	648.1	568.7	543.3
62.5°	654.5	622.7	565.5	498.8	530.6
65°	562.3	530.6	479.7	489.3	406.7
67.5°	460.7	444.8	400.3	355.8	343.1
70°	374.9	355.8	339.9	292.3	279.6
72.5°	298.6	279.6	257.3	231.9	222.4
75°	225.6	209.7	197.0	187.4	206.5
77.5°	155.7	149.3	139.8	130.3	127.1
80°	101.7	98.5	95.3	92.1	89.0
82.5°	60.4	60.4	60.4	60.4	60.4
85°	31.8	34.9	38.1	41.3	44.5
87.5°	19.1	19.1	22.2	25.4	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)