

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: P563560

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563560
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-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8406.0 lumens
Efficiency: N/A
Efficacy: 84.1 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

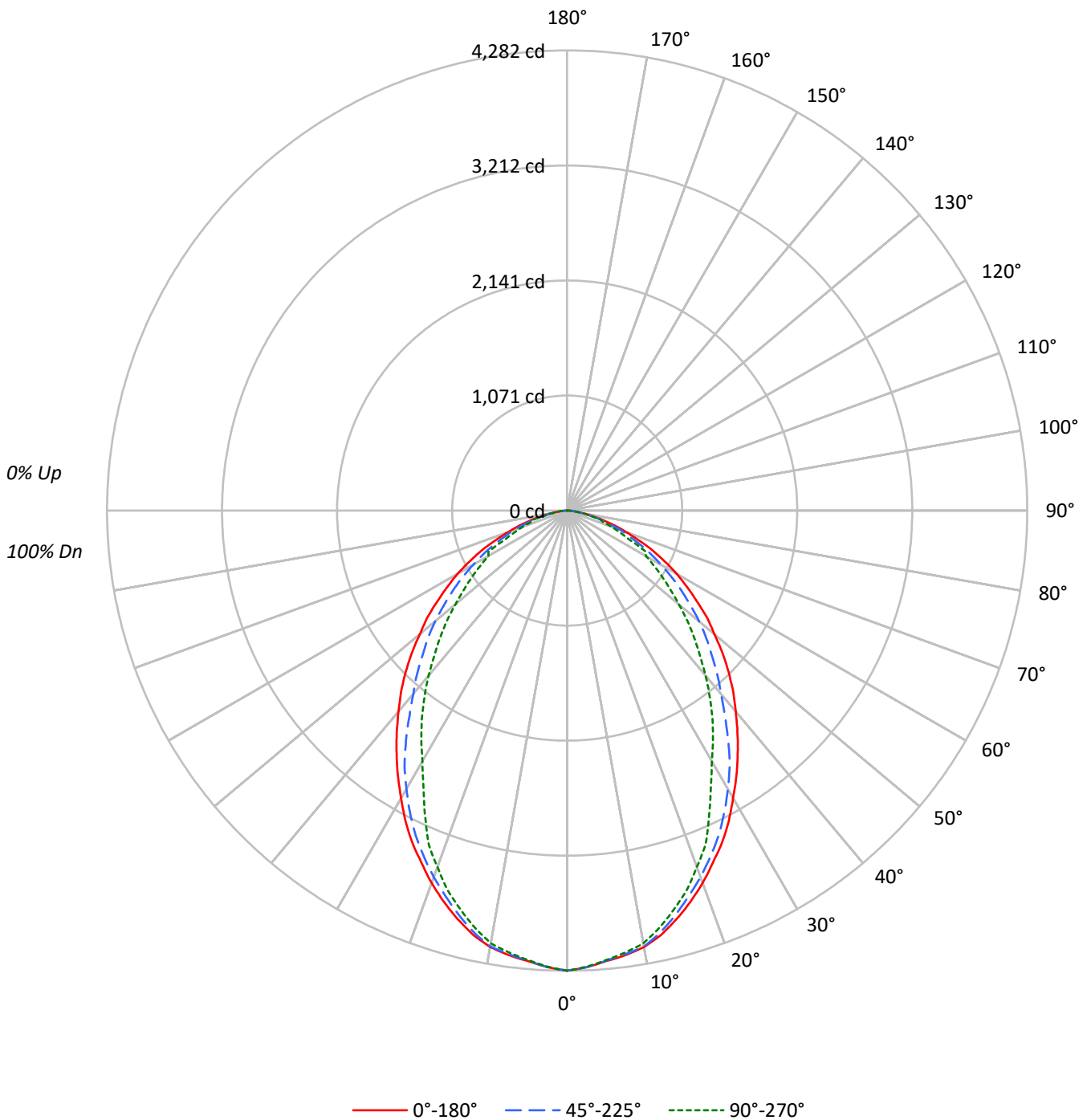
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5761	5761	5761
5°	5683	5676	5670
10°	5634	5627	5586
15°	5482	5427	5351
20°	5280	5195	5054
25°	5063	4953	4645
30°	4799	4645	4184
35°	4545	4293	3870
40°	4286	3913	3521
45°	4041	3617	3184
50°	3741	3357	2839
55°	3461	3042	2543
60°	3170	2717	2278
65°	2790	2380	2017
70°	2298	2084	1714
75°	1827	1595	1673
80°	1227	1151	1074
85°	764	917	1070

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4041 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	398.6	4.7
10°-20°	1093.9	13.0
20°-30°	1514.4	18.0
30°-40°	1614.8	19.2
40°-50°	1473.2	17.5
50°-60°	1154.1	13.7
60°-70°	752.2	8.9
70°-80°	333.3	4.0
80°-90°	71.6	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°	3006.9	35.8
0°-40°	4621.7	55.0
0°-60°	7249.0	86.2
0°-90°	8406.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8406.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4282	4282	4282	4282	4282	
5°	4208	4203	4203	4198	4198	399
15°	3935	3935	3896	3856	3841	1106
25°	3411	3391	3336	3218	3128	1566
35°	2767	2747	2614	2416	2356	1730
45°	2124	2079	1901	1742	1673	1636
55°	1475	1431	1297	1144	1084	1323
65°	876	827	748	762	634	863
75°	352	327	307	292	322	377
85°	50	54	59	64	69	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4281.9	4281.9	4281.9	4281.9	4281.9
2.5°	4252.2	4252.2	4252.2	4247.3	4247.3
5°	4207.7	4202.7	4202.7	4197.8	4197.8
7.5°	4173.0	4168.0	4163.1	4158.1	4148.2
10°	4123.5	4123.5	4118.5	4093.8	4088.8
12.5°	4044.3	4039.3	4019.5	3984.9	3975.0
15°	3935.4	3935.4	3895.8	3856.2	3841.3
17.5°	3816.6	3811.6	3762.1	3722.5	3702.7
20°	3687.9	3678.0	3628.5	3564.1	3529.5
22.5°	3544.3	3544.3	3484.9	3400.8	3366.1
25°	3410.7	3390.9	3336.4	3217.6	3128.5
27.5°	3257.2	3227.5	3168.1	2999.8	2895.9
30°	3088.9	3074.1	2989.9	2772.1	2692.9
32.5°	2930.5	2905.8	2816.7	2588.9	2524.6
35°	2767.1	2747.3	2613.7	2415.7	2356.3
37.5°	2603.8	2579.0	2410.7	2252.3	2178.1
40°	2440.4	2410.7	2227.6	2084.0	2004.8
42.5°	2287.0	2247.4	2069.2	1915.7	1826.6
45°	2123.6	2079.1	1900.9	1742.5	1673.2
47.5°	1960.3	1920.7	1757.3	1594.0	1514.8
50°	1787.0	1752.4	1603.9	1440.5	1356.3
52.5°	1643.5	1589.0	1445.5	1282.1	1212.8
55°	1475.2	1430.6	1296.9	1143.5	1084.1
57.5°	1321.7	1277.1	1153.4	1009.8	960.3
60°	1178.1	1113.8	1009.8	886.1	846.5
62.5°	1019.7	970.2	881.1	777.2	826.7
65°	876.2	826.7	747.5	762.3	633.6
67.5°	717.8	693.0	623.7	554.4	534.6
70°	584.1	554.4	529.7	455.4	435.6
72.5°	465.3	435.6	401.0	361.4	346.5
75°	351.5	326.7	306.9	292.1	321.8
77.5°	242.6	232.7	217.8	203.0	198.0
80°	158.4	153.5	148.5	143.6	138.6
82.5°	94.1	94.1	94.1	94.1	94.1
85°	49.5	54.5	59.4	64.4	69.3
87.5°	29.7	29.7	34.7	39.6	44.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)