

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: P590804

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590804
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4HI-50-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9416.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

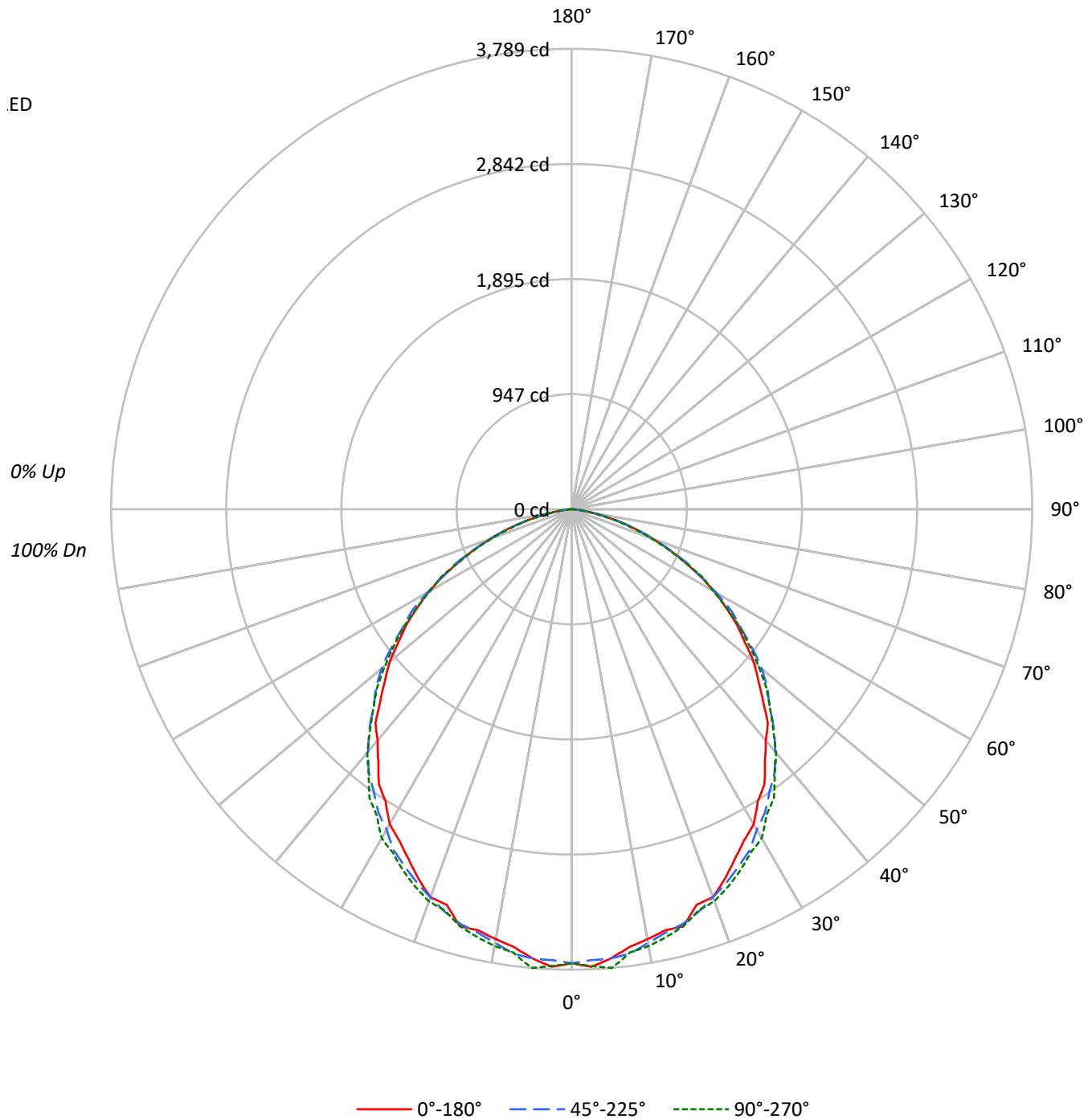
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10053	10053	10053
5°	10020	10024	10235
10°	9817	9903	9973
15°	9895	9841	9896
20°	9728	9728	9831
25°	9429	9635	9741
30°	9299	9463	9714
35°	9080	9318	9527
40°	8727	9147	9188
45°	8463	8764	8777
50°	8185	8555	8391
55°	7799	7950	7894
60°	7293	7365	7233
65°	6502	6668	6457
70°	5579	5598	5442
75°	4419	4408	4238
80°	2960	2878	2766
85°	1609	1593	1488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8990 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.4	3.7
10°-20°	996.0	10.6
20°-30°	1492.2	15.8
30°-40°	1768.6	18.8
40°-50°	1771.8	18.8
50°-60°	1504.0	16.0
60°-70°	1014.0	10.8
70°-80°	445.6	4.7
80°-90°	72.4	0.8
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°	2839.6	30.2
0°-40°	4608.2	48.9
0°-60°	7884.1	83.7
0°-90°	9416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9416.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3736	3736	3736	3736	3736	
5°	3710	3701	3711	3700	3789	350
15°	3552	3511	3532	3551	3552	990
25°	3176	3193	3245	3287	3281	1468
35°	2764	2772	2836	2902	2900	1716
45°	2224	2265	2303	2362	2306	1720
55°	1662	1651	1695	1683	1682	1479
65°	1021	1008	1047	1007	1014	1016
75°	425	416	424	394	408	455
85°	52	51	52	50	48	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3736.0	3736.0	3736.0	3736.0	3736.0
2.5°	3768.4	3739.9	3713.4	3744.2	3763.0
5°	3709.5	3700.8	3710.9	3699.9	3789.1
7.5°	3633.3	3666.6	3685.9	3673.8	3679.1
10°	3592.8	3581.2	3624.1	3654.0	3649.7
12.5°	3549.4	3566.7	3569.1	3601.4	3604.3
15°	3551.8	3510.8	3532.5	3550.8	3552.2
17.5°	3413.8	3458.2	3473.1	3515.1	3463.0
20°	3396.9	3364.6	3396.9	3439.8	3433.1
22.5°	3293.2	3257.0	3326.5	3364.6	3362.2
25°	3175.5	3192.9	3245.0	3287.4	3280.7
27.5°	3072.3	3092.5	3166.8	3225.2	3187.6
30°	2992.7	2982.6	3045.3	3097.4	3126.3
32.5°	2850.4	2887.0	2960.4	3012.0	2984.5
35°	2764.0	2772.2	2836.4	2902.0	2900.1
37.5°	2613.1	2651.2	2741.4	2759.7	2742.8
40°	2484.3	2522.4	2603.9	2623.7	2615.5
42.5°	2389.2	2396.0	2465.9	2488.6	2452.4
45°	2223.8	2265.3	2302.9	2362.2	2306.3
47.5°	2082.9	2102.2	2183.3	2199.2	2169.7
50°	1955.1	1961.8	2043.4	2023.6	2004.3
52.5°	1794.5	1822.9	1868.7	1864.9	1842.2
55°	1662.3	1651.2	1694.6	1683.0	1682.5
57.5°	1503.6	1522.9	1558.6	1540.2	1510.8
60°	1355.0	1355.5	1368.5	1347.8	1343.9
62.5°	1189.5	1195.3	1198.2	1172.7	1214.1
65°	1021.2	1007.7	1047.2	1007.2	1014.0
67.5°	866.4	873.1	869.2	844.2	853.8
70°	709.1	717.8	711.5	683.0	691.7
72.5°	565.3	554.7	561.5	525.8	542.2
75°	425.0	416.3	424.0	394.1	407.6
77.5°	289.4	296.2	291.4	275.4	284.6
80°	191.0	185.7	185.7	176.6	178.5
82.5°	111.4	106.1	104.7	101.8	106.1
85°	52.1	50.6	51.6	50.2	48.2
87.5°	18.8	19.3	19.3	18.3	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)