

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: P590771

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590771
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-40-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9603.0 lumens
Efficiency: N/A
Efficacy: 111.1 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

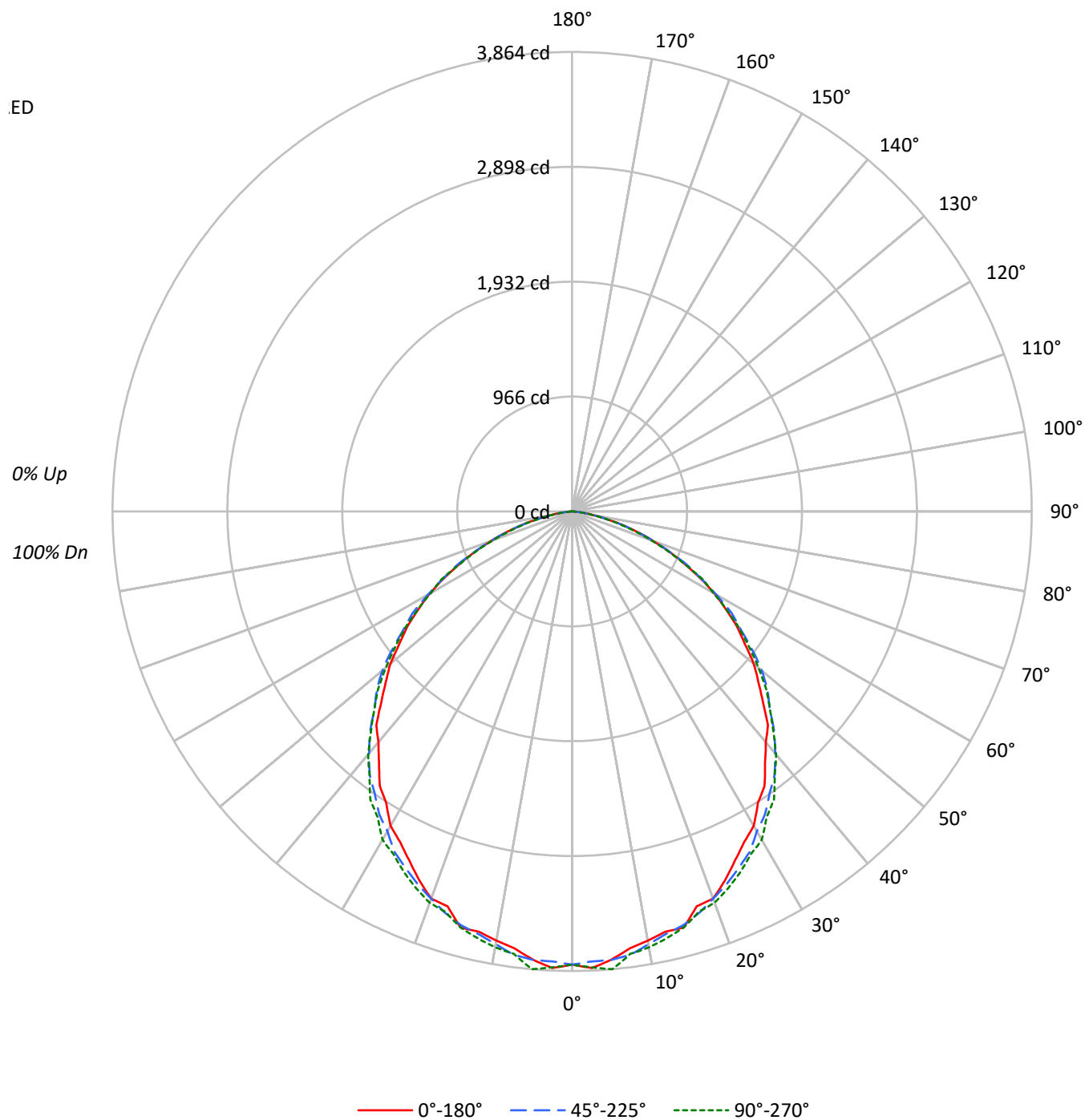
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	110	105	101	98	107	103	100	96		99	96	93		95	93	90		91	90	88
2	100	93	86	81	98	91	85	80		87	82	78		84	80	76		81	78	75
3	92	82	74	68	89	80	73	67		77	71	66		75	69	65		72	68	64
4	84	73	64	58	82	71	64	58		69	62	57		67	61	56		65	59	55
5	78	65	57	50	76	64	56	50		62	55	49		60	54	49		58	53	48
6	72	59	50	44	70	58	50	44		56	49	43		54	48	43		53	47	43
7	67	53	45	39	65	53	45	39		51	44	39		50	43	38		48	42	38
8	62	49	41	35	61	48	40	35		47	40	34		46	39	34		44	39	34
9	58	45	37	31	57	44	37	31		43	36	31		42	36	31		41	35	31
10	54	41	34	29	53	41	33	28		40	33	28		39	33	28		38	32	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10253	10253	10253
5°	10219	10223	10438
10°	10012	10100	10171
15°	10091	10037	10093
20°	9921	9921	10027
25°	9616	9826	9934
30°	9484	9650	9907
35°	9260	9503	9716
40°	8900	9329	9370
45°	8631	8938	8951
50°	8347	8724	8557
55°	7954	8108	8051
60°	7437	7512	7377
65°	6632	6800	6585
70°	5690	5709	5551
75°	4506	4496	4322
80°	3019	2935	2820
85°	1639	1624	1519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 9168 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.4	3.7
10°-20°	1015.8	10.6
20°-30°	1521.8	15.8
30°-40°	1803.7	18.8
40°-50°	1807.0	18.8
50°-60°	1533.9	16.0
60°-70°	1034.1	10.8
70°-80°	454.4	4.7
80°-90°	73.8	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°	2896.0	30.2
0°-40°	4699.7	48.9
0°-60°	8040.6	83.7
0°-90°	9603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3810	3810	3810	3810	3810	
5°	3783	3774	3785	3773	3864	357
15°	3622	3580	3603	3621	3623	1009
25°	3239	3256	3309	3353	3346	1497
35°	2819	2827	2893	2960	2958	1750
45°	2268	2310	2349	2409	2352	1754
55°	1695	1684	1728	1716	1716	1508
65°	1042	1028	1068	1027	1034	1036
75°	433	425	432	402	416	464
85°	53	52	53	51	49	77
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3810.2	3810.2	3810.2	3810.2	3810.2
2.5°	3843.2	3814.2	3787.1	3818.6	3837.8
5°	3783.2	3774.3	3784.6	3773.3	3864.3
7.5°	3705.4	3739.4	3759.1	3746.8	3752.2
10°	3664.1	3652.3	3696.1	3726.6	3722.2
12.5°	3619.8	3637.5	3640.0	3673.0	3675.9
15°	3622.3	3580.5	3602.6	3621.3	3622.8
17.5°	3481.6	3526.9	3542.1	3584.9	3531.8
20°	3464.4	3431.4	3464.4	3508.2	3501.3
22.5°	3358.6	3321.7	3392.6	3431.4	3429.0
25°	3238.6	3256.3	3309.4	3352.7	3345.8
27.5°	3133.3	3154.0	3229.7	3289.2	3250.9
30°	3052.1	3041.8	3105.7	3158.9	3188.4
32.5°	2907.0	2944.4	3019.2	3071.8	3043.8
35°	2818.9	2827.3	2892.7	2959.6	2957.7
37.5°	2664.9	2703.8	2795.8	2814.5	2797.3
40°	2533.6	2572.5	2655.6	2675.8	2667.4
42.5°	2436.7	2443.6	2514.9	2538.0	2501.1
45°	2267.9	2310.2	2348.6	2409.1	2352.1
47.5°	2124.3	2144.0	2226.6	2242.8	2212.8
50°	1993.9	2000.8	2083.9	2063.8	2044.1
52.5°	1830.1	1859.1	1905.9	1901.9	1878.8
55°	1695.3	1684.0	1728.3	1716.4	1716.0
57.5°	1533.4	1553.1	1589.5	1570.8	1540.8
60°	1381.9	1382.4	1395.7	1374.5	1370.6
62.5°	1213.2	1219.1	1222.0	1196.0	1238.3
65°	1041.5	1027.7	1068.0	1027.2	1034.1
67.5°	883.6	890.4	886.5	860.9	870.8
70°	723.2	732.0	725.6	696.6	705.5
72.5°	576.6	565.8	572.6	536.2	553.0
75°	433.4	424.6	432.4	401.9	415.7
77.5°	295.2	302.1	297.1	280.9	290.3
80°	194.8	189.4	189.4	180.1	182.0
82.5°	113.6	108.2	106.8	103.8	108.2
85°	53.1	51.7	52.6	51.2	49.2
87.5°	19.2	19.7	19.7	18.7	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)