

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: P562594

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562594
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-LD4-2HI-40-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7979.0 lumens
Efficiency: N/A
Efficacy: 92.3 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

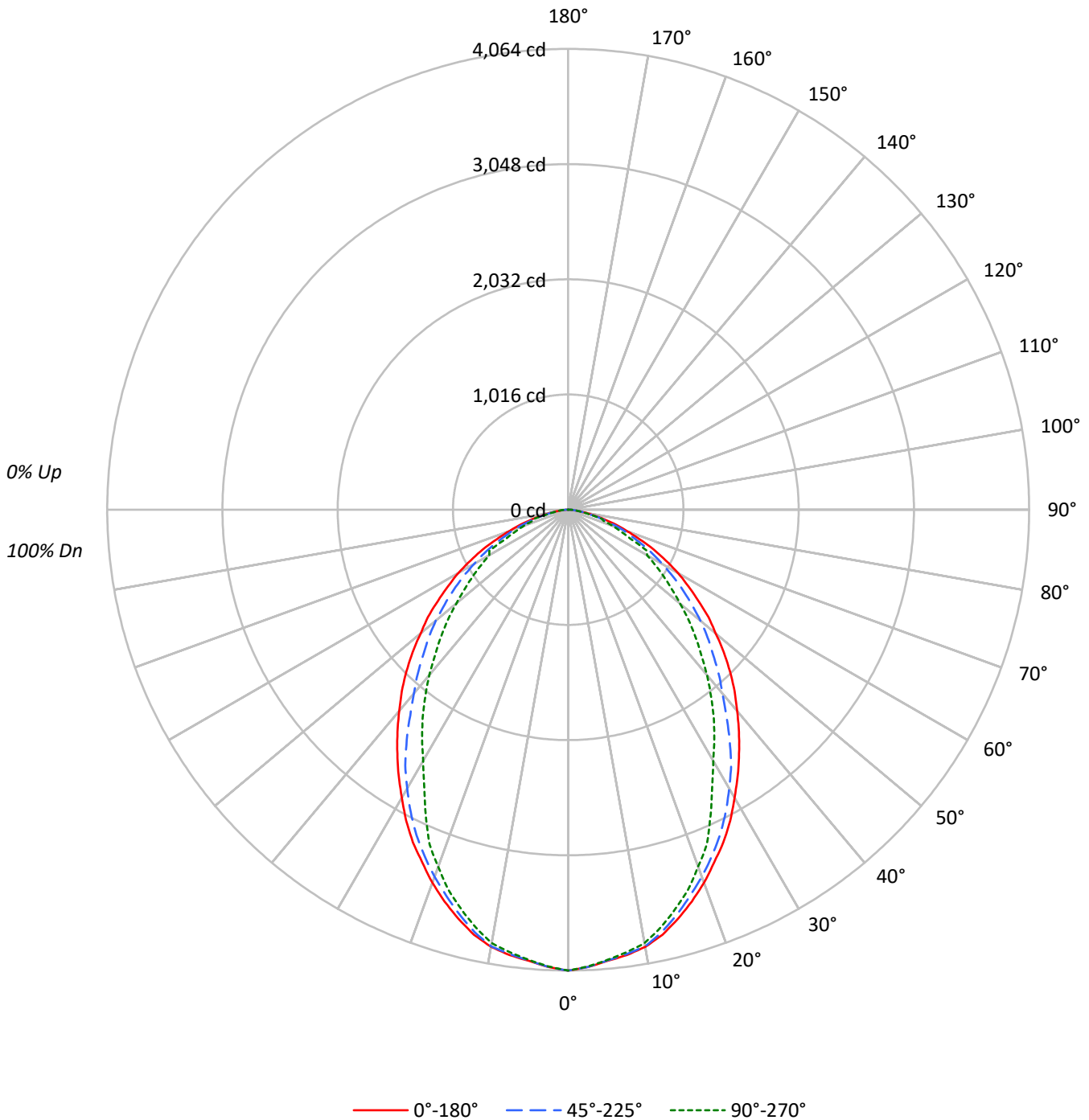
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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°	5469	5469	5469
5°	5394	5388	5382
10°	5347	5341	5303
15°	5203	5151	5079
20°	5012	4932	4797
25°	4806	4702	4409
30°	4555	4409	3971
35°	4314	4075	3674
40°	4069	3714	3342
45°	3836	3433	3022
50°	3551	3187	2695
55°	3285	2888	2414
60°	3009	2579	2162
65°	2648	2259	1915
70°	2181	1978	1627
75°	1734	1514	1588
80°	1165	1093	1020
85°	726	871	1016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3836 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.3	4.7
10°-20°	1038.3	13.0
20°-30°	1437.5	18.0
30°-40°	1532.8	19.2
40°-50°	1398.3	17.5
50°-60°	1095.5	13.7
60°-70°	714.0	8.9
70°-80°	316.3	4.0
80°-90°	67.9	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°	2854.2	35.8
0°-40°	4386.9	55.0
0°-60°	6880.8	86.2
0°-90°	7979.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7979.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4064	4064	4064	4064	4064	
5°	3994	3989	3989	3984	3984	379
15°	3736	3736	3698	3660	3646	1050
25°	3237	3219	3167	3054	2970	1486
35°	2627	2608	2481	2293	2237	1642
45°	2016	1974	1804	1654	1588	1553
55°	1400	1358	1231	1085	1029	1256
65°	832	785	710	724	601	820
75°	334	310	291	277	305	358
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4064.4	4064.4	4064.4	4064.4	4064.4
2.5°	4036.2	4036.2	4036.2	4031.5	4031.5
5°	3993.9	3989.2	3989.2	3984.5	3984.5
7.5°	3961.0	3956.3	3951.6	3946.9	3937.5
10°	3914.0	3914.0	3909.3	3885.8	3881.1
12.5°	3838.9	3834.2	3815.4	3782.5	3773.1
15°	3735.5	3735.5	3697.9	3660.3	3646.2
17.5°	3622.7	3618.0	3571.0	3533.4	3514.6
20°	3500.5	3491.2	3444.2	3383.1	3350.2
22.5°	3364.3	3364.3	3307.9	3228.0	3195.1
25°	3237.4	3218.6	3166.9	3054.2	2969.6
27.5°	3091.8	3063.6	3007.2	2847.4	2748.8
30°	2932.0	2917.9	2838.0	2631.3	2556.1
32.5°	2781.6	2758.2	2673.6	2457.4	2396.3
35°	2626.6	2607.8	2480.9	2293.0	2236.6
37.5°	2471.5	2448.0	2288.3	2137.9	2067.4
40°	2316.5	2288.3	2114.4	1978.2	1903.0
42.5°	2170.8	2133.2	1964.1	1818.4	1733.8
45°	2015.8	1973.5	1804.3	1654.0	1588.2
47.5°	1860.7	1823.1	1668.0	1513.0	1437.8
50°	1696.2	1663.3	1522.4	1367.3	1287.5
52.5°	1560.0	1508.3	1372.0	1217.0	1151.2
55°	1400.2	1357.9	1231.1	1085.4	1029.0
57.5°	1254.6	1212.3	1094.8	958.5	911.6
60°	1118.3	1057.2	958.5	841.1	803.5
62.5°	967.9	920.9	836.4	737.7	784.7
65°	831.7	784.7	709.5	723.6	601.4
67.5°	681.3	657.8	592.0	526.3	507.5
70°	554.4	526.3	502.8	432.3	413.5
72.5°	441.7	413.5	380.6	343.0	328.9
75°	333.6	310.1	291.3	277.2	305.4
77.5°	230.2	220.8	206.7	192.6	187.9
80°	150.4	145.7	141.0	136.3	131.6
82.5°	89.3	89.3	89.3	89.3	89.3
85°	47.0	51.7	56.4	61.1	65.8
87.5°	28.2	28.2	32.9	37.6	42.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)