

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: P562533

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562533
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-35-UNV-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9296.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

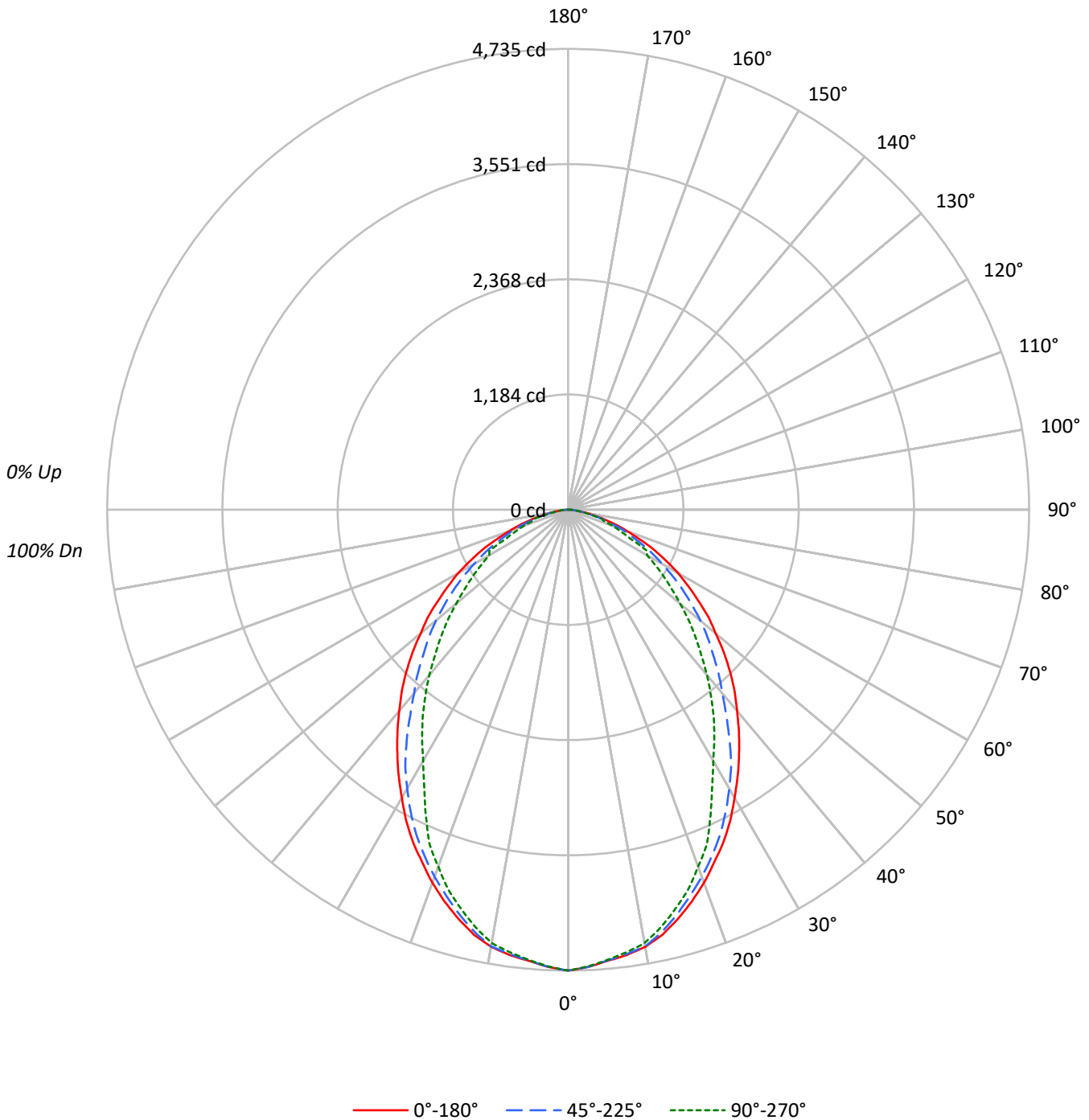
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6371	6371	6371
5°	6285	6277	6270
10°	6230	6223	6178
15°	6062	6001	5917
20°	5839	5746	5589
25°	5600	5478	5136
30°	5307	5137	4627
35°	5026	4748	4280
40°	4740	4327	3894
45°	4469	4000	3521
50°	4137	3713	3140
55°	3827	3365	2812
60°	3506	3005	2519
65°	3085	2632	2231
70°	2541	2304	1895
75°	2021	1764	1850
80°	1358	1272	1188
85°	844	1014	1183

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4469 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	440.8	4.7
10°-20°	1209.7	13.0
20°-30°	1674.8	18.0
30°-40°	1785.8	19.2
40°-50°	1629.1	17.5
50°-60°	1276.3	13.7
60°-70°	831.8	8.9
70°-80°	368.5	4.0
80°-90°	79.1	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°	3325.3	35.8
0°-40°	5111.0	55.0
0°-60°	8016.5	86.2
0°-90°	9296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9296.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4735	4735	4735	4735	4735	
5°	4653	4648	4648	4642	4642	442
15°	4352	4352	4308	4264	4248	1223
25°	3772	3750	3690	3558	3460	1732
35°	3060	3038	2890	2672	2606	1913
45°	2348	2299	2102	1927	1850	1809
55°	1631	1582	1434	1265	1199	1463
65°	969	914	827	843	701	955
75°	389	361	339	323	356	417
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4735.3	4735.3	4735.3	4735.3	4735.3
2.5°	4702.4	4702.4	4702.4	4696.9	4696.9
5°	4653.1	4647.7	4647.7	4642.2	4642.2
7.5°	4614.8	4609.3	4603.9	4598.4	4587.5
10°	4560.1	4560.1	4554.6	4527.2	4521.8
12.5°	4472.5	4467.0	4445.1	4406.8	4395.9
15°	4352.1	4352.1	4308.3	4264.5	4248.0
17.5°	4220.7	4215.2	4160.5	4116.7	4094.8
20°	4078.3	4067.4	4012.7	3941.5	3903.2
22.5°	3919.6	3919.6	3853.9	3760.8	3722.5
25°	3771.8	3749.9	3689.7	3558.3	3459.7
27.5°	3602.1	3569.2	3503.5	3317.4	3202.5
30°	3416.0	3399.5	3306.5	3065.6	2978.0
32.5°	3240.8	3213.4	3114.9	2863.1	2791.9
35°	3060.1	3038.2	2890.4	2671.5	2605.8
37.5°	2879.5	2852.1	2666.0	2490.8	2408.7
40°	2698.8	2666.0	2463.4	2304.7	2217.1
42.5°	2529.1	2485.3	2288.3	2118.5	2020.0
45°	2348.5	2299.2	2102.1	1926.9	1850.3
47.5°	2167.8	2124.0	1943.4	1762.7	1675.1
50°	1976.2	1937.9	1773.7	1593.0	1500.0
52.5°	1817.5	1757.2	1598.5	1417.8	1341.2
55°	1631.3	1582.1	1434.3	1264.6	1198.9
57.5°	1461.6	1412.4	1275.5	1116.8	1062.0
60°	1302.9	1231.7	1116.8	979.9	936.1
62.5°	1127.7	1073.0	974.4	859.5	914.2
65°	968.9	914.2	826.6	843.0	700.7
67.5°	793.8	766.4	689.8	613.1	591.2
70°	646.0	613.1	585.7	503.6	481.7
72.5°	514.6	481.7	443.4	399.6	383.2
75°	388.7	361.3	339.4	323.0	355.8
77.5°	268.2	257.3	240.9	224.4	219.0
80°	175.2	169.7	164.2	158.8	153.3
82.5°	104.0	104.0	104.0	104.0	104.0
85°	54.7	60.2	65.7	71.2	76.6
87.5°	32.8	32.8	38.3	43.8	49.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)