

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: P561359

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561359
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-12-4-LD4-2HI-35-UNV-81-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7397.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

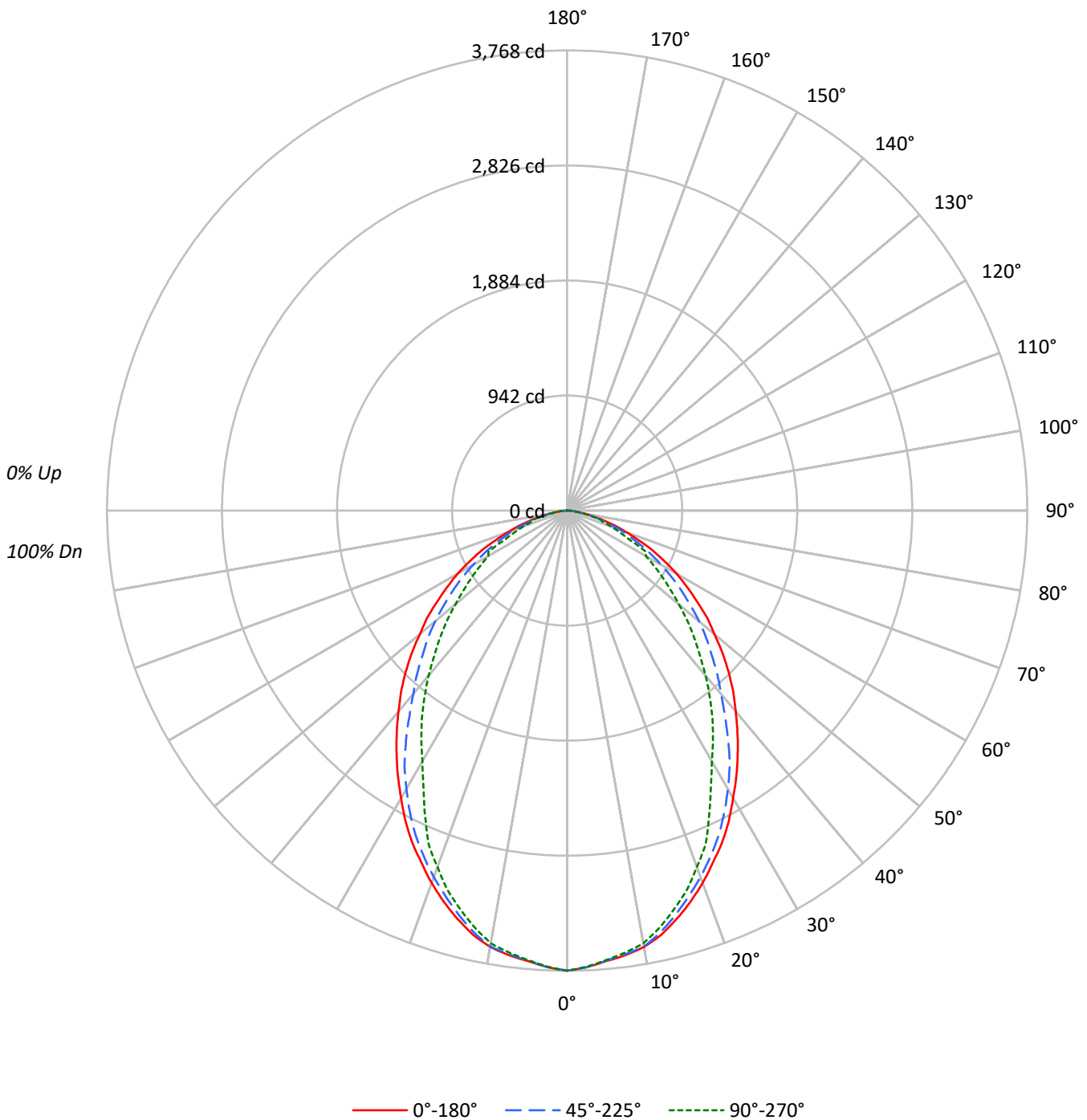
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	10139	10139	10139
5°	10002	9990	9978
10°	9915	9903	9832
15°	9648	9551	9417
20°	9293	9143	8894
25°	8911	8717	8174
30°	8446	8175	7363
35°	7999	7556	6812
40°	7544	6886	6197
45°	7112	6366	5603
50°	6583	5908	4996
55°	6090	5354	4476
60°	5579	4782	4009
65°	4909	4188	3550
70°	4044	3667	3016
75°	3216	2808	2943
80°	2160	2025	1891
85°	1346	1615	1883

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7112 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	350.7	4.7
10°-20°	962.6	13.0
20°-30°	1332.6	18.0
30°-40°	1421.0	19.2
40°-50°	1296.3	17.5
50°-60°	1015.6	13.7
60°-70°	661.9	8.9
70°-80°	293.3	4.0
80°-90°	63.0	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°	2646.0	35.8
0°-40°	4067.0	55.0
0°-60°	6378.9	86.2
0°-90°	7397.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7397.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3768	3768	3768	3768	3768	
5°	3703	3698	3698	3694	3694	351
15°	3463	3463	3428	3393	3380	974
25°	3001	2984	2936	2831	2753	1378
35°	2435	2418	2300	2126	2074	1522
45°	1869	1830	1673	1533	1472	1439
55°	1298	1259	1141	1006	954	1164
65°	771	728	658	671	558	760
75°	309	288	270	257	283	331
85°	44	48	52	57	61	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3767.9	3767.9	3767.9	3767.9	3767.9
2.5°	3741.8	3741.8	3741.8	3737.4	3737.4
5°	3702.6	3698.2	3698.2	3693.9	3693.9
7.5°	3672.1	3667.7	3663.4	3659.0	3650.3
10°	3628.5	3628.5	3624.2	3602.4	3598.0
12.5°	3558.8	3554.5	3537.1	3506.6	3497.9
15°	3463.0	3463.0	3428.2	3393.3	3380.2
17.5°	3358.5	3354.1	3310.6	3275.7	3258.3
20°	3245.2	3236.5	3192.9	3136.3	3105.8
22.5°	3118.9	3118.9	3066.6	2992.6	2962.1
25°	3001.3	2983.9	2935.9	2831.4	2753.0
27.5°	2866.2	2840.1	2787.8	2639.7	2548.3
30°	2718.1	2705.1	2631.0	2439.4	2369.7
32.5°	2578.7	2557.0	2478.6	2278.2	2221.6
35°	2435.0	2417.6	2300.0	2125.7	2073.5
37.5°	2291.3	2269.5	2121.4	1982.0	1916.6
40°	2147.5	2121.4	1960.2	1833.9	1764.2
42.5°	2012.5	1977.6	1820.8	1685.8	1607.4
45°	1868.7	1829.5	1672.7	1533.3	1472.3
47.5°	1725.0	1690.1	1546.4	1402.6	1332.9
50°	1572.5	1542.0	1411.3	1267.6	1193.5
52.5°	1446.2	1398.3	1271.9	1128.2	1067.2
55°	1298.1	1258.9	1141.3	1006.2	954.0
57.5°	1163.0	1123.8	1014.9	888.6	845.1
60°	1036.7	980.1	888.6	779.7	744.9
62.5°	897.3	853.8	775.4	683.9	727.5
65°	771.0	727.5	657.8	670.8	557.6
67.5°	631.6	609.8	548.9	487.9	470.4
70°	514.0	487.9	466.1	400.8	383.3
72.5°	409.5	383.3	352.8	318.0	304.9
75°	309.3	287.5	270.1	257.0	283.1
77.5°	213.4	204.7	191.7	178.6	174.2
80°	139.4	135.0	130.7	126.3	122.0
82.5°	82.8	82.8	82.8	82.8	82.8
85°	43.6	47.9	52.3	56.6	61.0
87.5°	26.1	26.1	30.5	34.8	39.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)