

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: P563359

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-82-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563359
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-LD4-3LO-40-UNV-82-97-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8016.0 lumens
Efficiency: N/A
Efficacy: 114.2 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

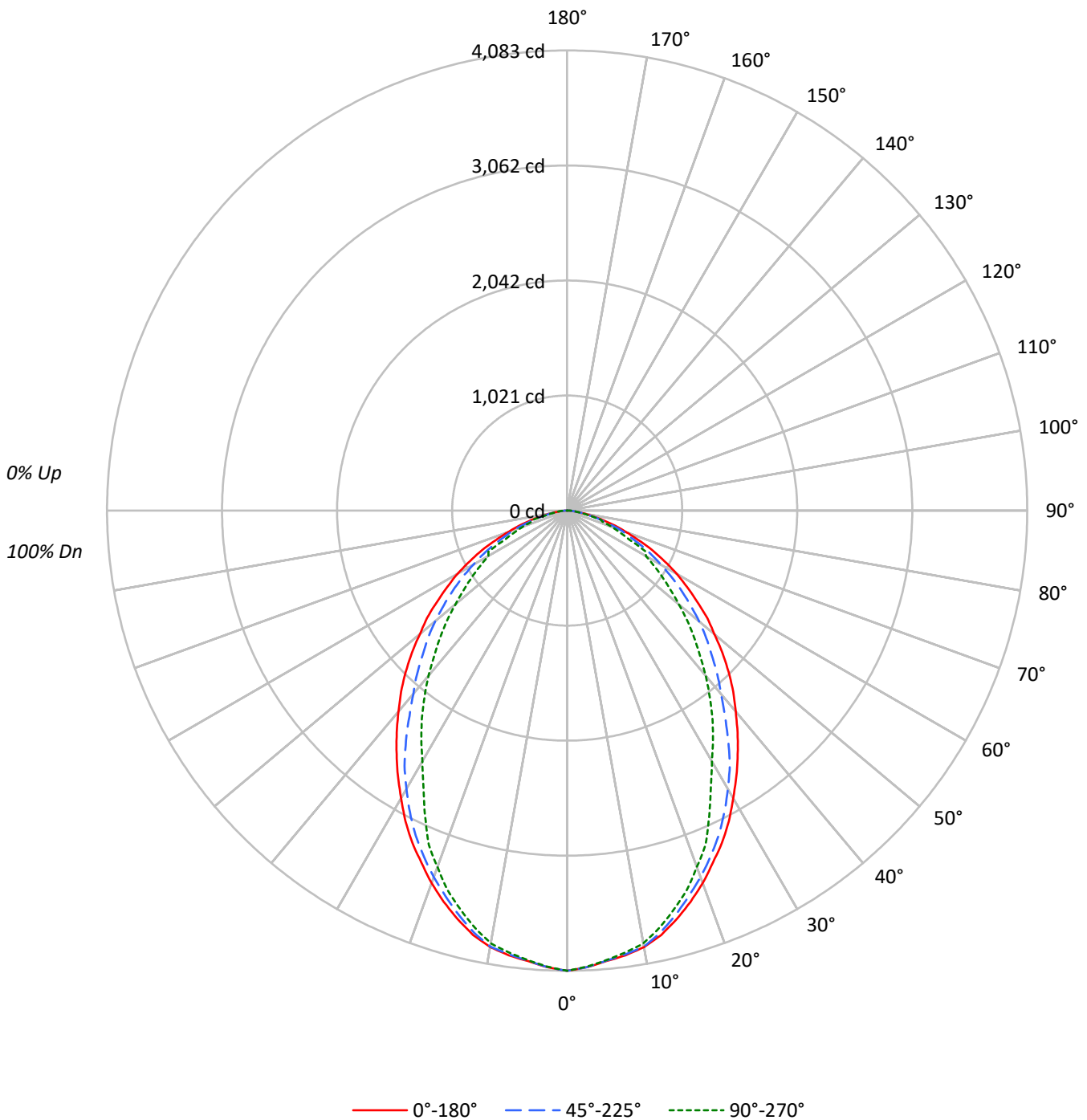
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5494	5494	5494
5°	5419	5413	5407
10°	5372	5366	5327
15°	5227	5175	5103
20°	5035	4954	4819
25°	4828	4723	4429
30°	4576	4430	3990
35°	4334	4094	3691
40°	4088	3731	3358
45°	3853	3449	3036
50°	3567	3201	2707
55°	3300	2901	2425
60°	3023	2591	2172
65°	2660	2269	1924
70°	2191	1987	1634
75°	1743	1522	1595
80°	1171	1097	1024
85°	729	874	1020

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3853 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.1	4.7
10°-20°	1043.1	13.0
20°-30°	1444.2	18.0
30°-40°	1539.9	19.2
40°-50°	1404.8	17.5
50°-60°	1100.6	13.7
60°-70°	717.3	8.9
70°-80°	317.8	4.0
80°-90°	68.2	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°	2867.4	35.8
0°-40°	4407.3	55.0
0°-60°	6912.7	86.2
0°-90°	8016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4083	4083	4083	4083	4083	
5°	4012	4008	4008	4003	4003	381
15°	3753	3753	3715	3677	3663	1055
25°	3252	3234	3182	3068	2983	1493
35°	2639	2620	2492	2304	2247	1650
45°	2025	1983	1813	1662	1596	1560
55°	1407	1364	1237	1090	1034	1262
65°	836	788	713	727	604	823
75°	335	312	293	278	307	359
85°	47	52	57	61	66	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4083.2	4083.2	4083.2	4083.2	4083.2
2.5°	4054.9	4054.9	4054.9	4050.2	4050.2
5°	4012.4	4007.7	4007.7	4003.0	4003.0
7.5°	3979.4	3974.7	3970.0	3965.2	3955.8
10°	3932.2	3932.2	3927.5	3903.9	3899.1
12.5°	3856.7	3851.9	3833.1	3800.0	3790.6
15°	3752.8	3752.8	3715.0	3677.3	3663.1
17.5°	3639.5	3634.8	3587.6	3549.8	3530.9
20°	3516.8	3507.3	3460.1	3398.8	3365.7
22.5°	3379.9	3379.9	3323.2	3243.0	3209.9
25°	3252.4	3233.6	3181.6	3068.3	2983.4
27.5°	3106.1	3077.8	3021.1	2860.6	2761.5
30°	2945.6	2931.4	2851.2	2643.5	2568.0
32.5°	2794.5	2770.9	2686.0	2468.8	2407.5
35°	2638.8	2619.9	2492.4	2303.6	2247.0
37.5°	2483.0	2459.4	2298.9	2147.8	2077.0
40°	2327.2	2298.9	2124.2	1987.3	1911.8
42.5°	2180.9	2143.1	1973.2	1826.8	1741.9
45°	2025.1	1982.6	1812.7	1661.6	1595.5
47.5°	1869.3	1831.6	1675.8	1520.0	1444.5
50°	1704.1	1671.1	1529.4	1373.7	1293.4
52.5°	1567.2	1515.3	1378.4	1222.6	1156.5
55°	1406.7	1364.2	1236.8	1090.4	1033.8
57.5°	1260.4	1217.9	1099.9	963.0	915.8
60°	1123.5	1062.1	963.0	845.0	807.2
62.5°	972.4	925.2	840.3	741.1	788.3
65°	835.5	788.3	712.8	727.0	604.2
67.5°	684.5	660.9	594.8	528.7	509.8
70°	557.0	528.7	505.1	434.3	415.4
72.5°	443.7	415.4	382.4	344.6	330.4
75°	335.2	311.6	292.7	278.5	306.8
77.5°	231.3	221.9	207.7	193.5	188.8
80°	151.1	146.3	141.6	136.9	132.2
82.5°	89.7	89.7	89.7	89.7	89.7
85°	47.2	51.9	56.6	61.4	66.1
87.5°	28.3	28.3	33.0	37.8	42.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)