

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: P562987

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562987
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-LD4-2STD-40-UNV-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 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: 7917.0 lumens
Efficiency: N/A
Efficacy: 118.9 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

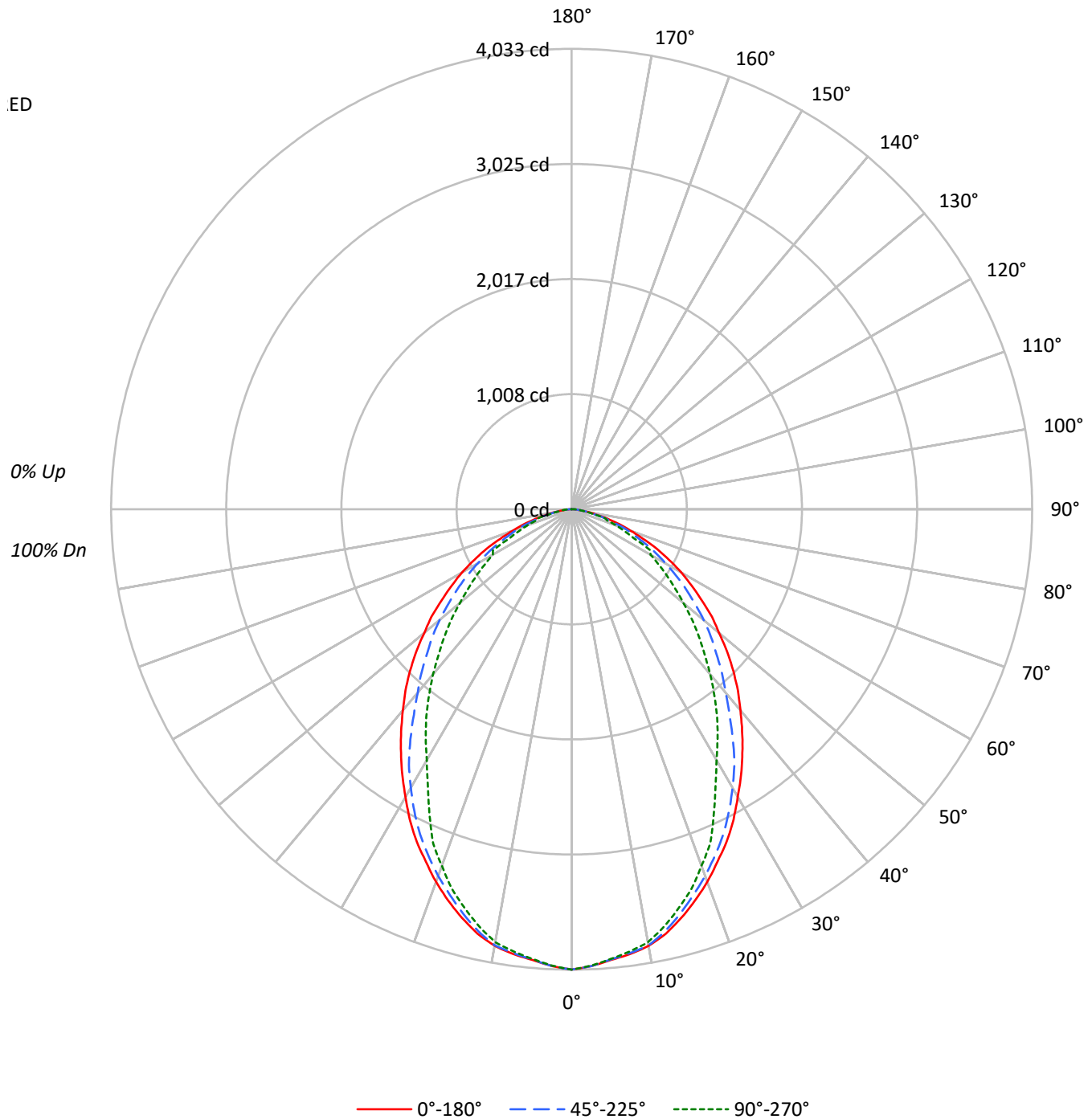
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5426	5426	5426
5°	5352	5346	5340
10°	5306	5300	5261
15°	5163	5111	5040
20°	4973	4893	4760
25°	4769	4665	4374
30°	4520	4375	3940
35°	4281	4043	3645
40°	4037	3685	3316
45°	3806	3407	2998
50°	3523	3162	2674
55°	3259	2865	2395
60°	2986	2559	2145
65°	2627	2241	1900
70°	2164	1963	1614
75°	1721	1503	1575
80°	1156	1084	1011
85°	719	863	1008

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3806 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	375.4	4.7
10°-20°	1030.3	13.0
20°-30°	1426.3	18.0
30°-40°	1520.9	19.2
40°-50°	1387.5	17.5
50°-60°	1087.0	13.7
60°-70°	708.4	8.9
70°-80°	313.9	4.0
80°-90°	67.4	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°	2832.0	35.8
0°-40°	4352.8	55.0
0°-60°	6827.3	86.2
0°-90°	7917.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7917.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4033	4033	4033	4033	4033	
5°	3963	3958	3958	3954	3954	376
15°	3706	3706	3669	3632	3618	1042
25°	3212	3194	3142	3030	2946	1475
35°	2606	2588	2462	2275	2219	1629
45°	2000	1958	1790	1641	1576	1541
55°	1389	1347	1222	1077	1021	1246
65°	825	779	704	718	597	813
75°	331	308	289	275	303	355
85°	47	51	56	61	65	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4032.8	4032.8	4032.8	4032.8	4032.8
2.5°	4004.8	4004.8	4004.8	4000.2	4000.2
5°	3962.9	3958.2	3958.2	3953.6	3953.6
7.5°	3930.2	3925.6	3920.9	3916.3	3906.9
10°	3883.6	3883.6	3879.0	3855.6	3851.0
12.5°	3809.0	3804.4	3785.7	3753.1	3743.8
15°	3706.5	3706.5	3669.2	3631.9	3617.9
17.5°	3594.6	3589.9	3543.3	3506.0	3487.3
20°	3473.3	3464.0	3417.4	3356.8	3324.2
22.5°	3338.1	3338.1	3282.2	3202.9	3170.3
25°	3212.3	3193.6	3142.3	3030.4	2946.5
27.5°	3067.7	3039.8	2983.8	2825.3	2727.4
30°	2909.2	2895.2	2816.0	2610.8	2536.2
32.5°	2760.0	2736.7	2652.8	2438.3	2377.7
35°	2606.2	2587.5	2461.6	2275.2	2219.2
37.5°	2452.3	2429.0	2270.5	2121.3	2051.4
40°	2298.5	2270.5	2098.0	1962.8	1888.2
42.5°	2153.9	2116.6	1948.8	1804.3	1720.4
45°	2000.1	1958.1	1790.3	1641.1	1575.8
47.5°	1846.2	1808.9	1655.1	1501.2	1426.6
50°	1683.1	1650.4	1510.6	1356.7	1277.4
52.5°	1547.9	1496.6	1361.4	1207.5	1142.2
55°	1389.3	1347.4	1221.5	1077.0	1021.0
57.5°	1244.8	1202.9	1086.3	951.1	904.5
60°	1109.6	1049.0	951.1	834.5	797.2
62.5°	960.4	913.8	829.9	732.0	778.6
65°	825.2	778.6	704.0	718.0	596.8
67.5°	676.0	652.7	587.4	522.2	503.5
70°	550.1	522.2	498.9	428.9	410.3
72.5°	438.2	410.3	377.6	340.3	326.4
75°	331.0	307.7	289.1	275.1	303.0
77.5°	228.4	219.1	205.1	191.2	186.5
80°	149.2	144.5	139.9	135.2	130.5
82.5°	88.6	88.6	88.6	88.6	88.6
85°	46.6	51.3	55.9	60.6	65.3
87.5°	28.0	28.0	32.6	37.3	42.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)