

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: P563370

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563370
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-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7451.0 lumens
Efficiency: N/A
Efficacy: 106.1 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

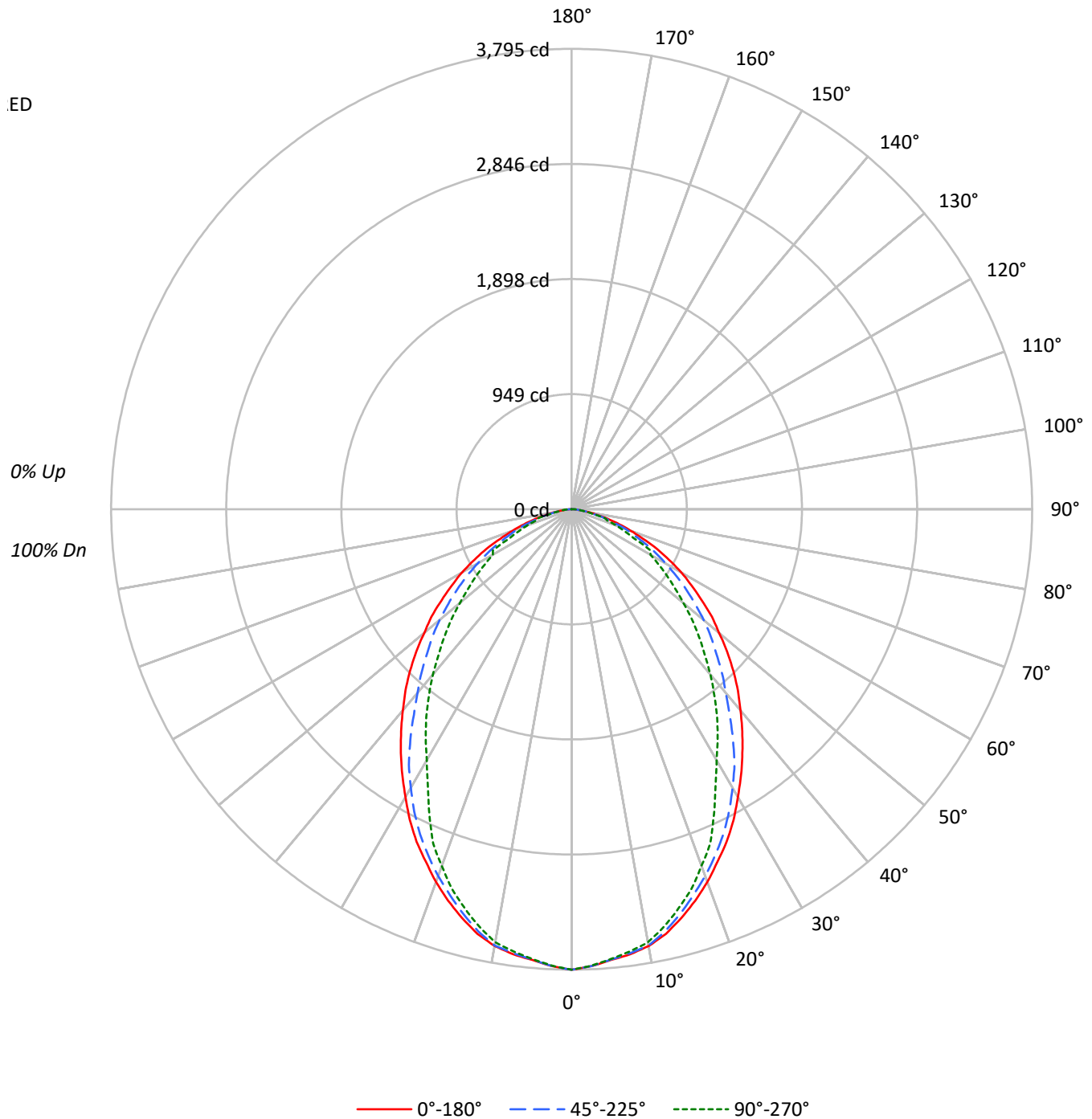
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5107	5107	5107
5°	5037	5031	5025
10°	4994	4988	4952
15°	4859	4810	4743
20°	4681	4605	4480
25°	4488	4391	4117
30°	4254	4117	3709
35°	4029	3805	3431
40°	3799	3468	3121
45°	3582	3206	2822
50°	3316	2976	2517
55°	3067	2697	2254
60°	2810	2409	2019
65°	2472	2110	1788
70°	2037	1847	1519
75°	1619	1414	1483
80°	1088	1020	952
85°	678	814	948

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3582 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	353.3	4.7
10°-20°	969.6	13.0
20°-30°	1342.4	18.0
30°-40°	1431.4	19.2
40°-50°	1305.8	17.5
50°-60°	1023.0	13.7
60°-70°	666.7	8.9
70°-80°	295.4	4.0
80°-90°	63.4	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°	2665.3	35.8
0°-40°	4096.6	55.0
0°-60°	6425.5	86.2
0°-90°	7451.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7451.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3795	3795	3795	3795	3795	
5°	3730	3725	3725	3721	3721	354
15°	3488	3488	3453	3418	3405	981
25°	3023	3006	2957	2852	2773	1388
35°	2453	2435	2317	2141	2089	1533
45°	1882	1843	1685	1544	1483	1450
55°	1308	1268	1150	1014	961	1173
65°	777	733	663	676	562	765
75°	312	290	272	259	285	334
85°	44	48	53	57	61	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3795.4	3795.4	3795.4	3795.4	3795.4
2.5°	3769.1	3769.1	3769.1	3764.7	3764.7
5°	3729.6	3725.2	3725.2	3720.8	3720.8
7.5°	3698.9	3694.5	3690.1	3685.7	3677.0
10°	3655.0	3655.0	3650.6	3628.7	3624.3
12.5°	3584.8	3580.4	3562.9	3532.2	3523.4
15°	3488.3	3488.3	3453.2	3418.1	3404.9
17.5°	3383.0	3378.6	3334.7	3299.6	3282.1
20°	3268.9	3260.1	3216.3	3159.2	3128.5
22.5°	3141.7	3141.7	3089.0	3014.4	2983.7
25°	3023.2	3005.6	2957.4	2852.1	2773.1
27.5°	2887.2	2860.8	2808.2	2659.0	2566.9
30°	2738.0	2724.8	2650.2	2457.2	2387.0
32.5°	2597.6	2575.6	2496.7	2294.8	2237.8
35°	2452.8	2435.2	2316.8	2141.2	2088.6
37.5°	2308.0	2286.0	2136.9	1996.4	1930.6
40°	2163.2	2136.9	1974.5	1847.3	1777.1
42.5°	2027.2	1992.1	1834.1	1698.1	1619.1
45°	1882.4	1842.9	1684.9	1544.5	1483.1
47.5°	1737.6	1702.5	1557.7	1412.9	1342.7
50°	1584.0	1553.3	1421.6	1276.8	1202.3
52.5°	1456.7	1408.5	1281.2	1136.4	1075.0
55°	1307.6	1268.1	1149.6	1013.6	960.9
57.5°	1171.5	1132.1	1022.4	895.1	851.2
60°	1044.3	987.3	895.1	785.4	750.3
62.5°	903.9	860.0	781.0	688.9	732.8
65°	776.6	732.8	662.6	675.7	561.6
67.5°	636.2	614.3	552.9	491.4	473.9
70°	517.8	491.4	469.5	403.7	386.1
72.5°	412.5	386.1	355.4	320.3	307.1
75°	311.5	289.6	272.0	258.9	285.2
77.5°	215.0	206.2	193.1	179.9	175.5
80°	140.4	136.0	131.6	127.2	122.9
82.5°	83.4	83.4	83.4	83.4	83.4
85°	43.9	48.3	52.7	57.0	61.4
87.5°	26.3	26.3	30.7	35.1	39.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)