

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: P563693

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563693
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-LD4-4HI-35-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19016.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

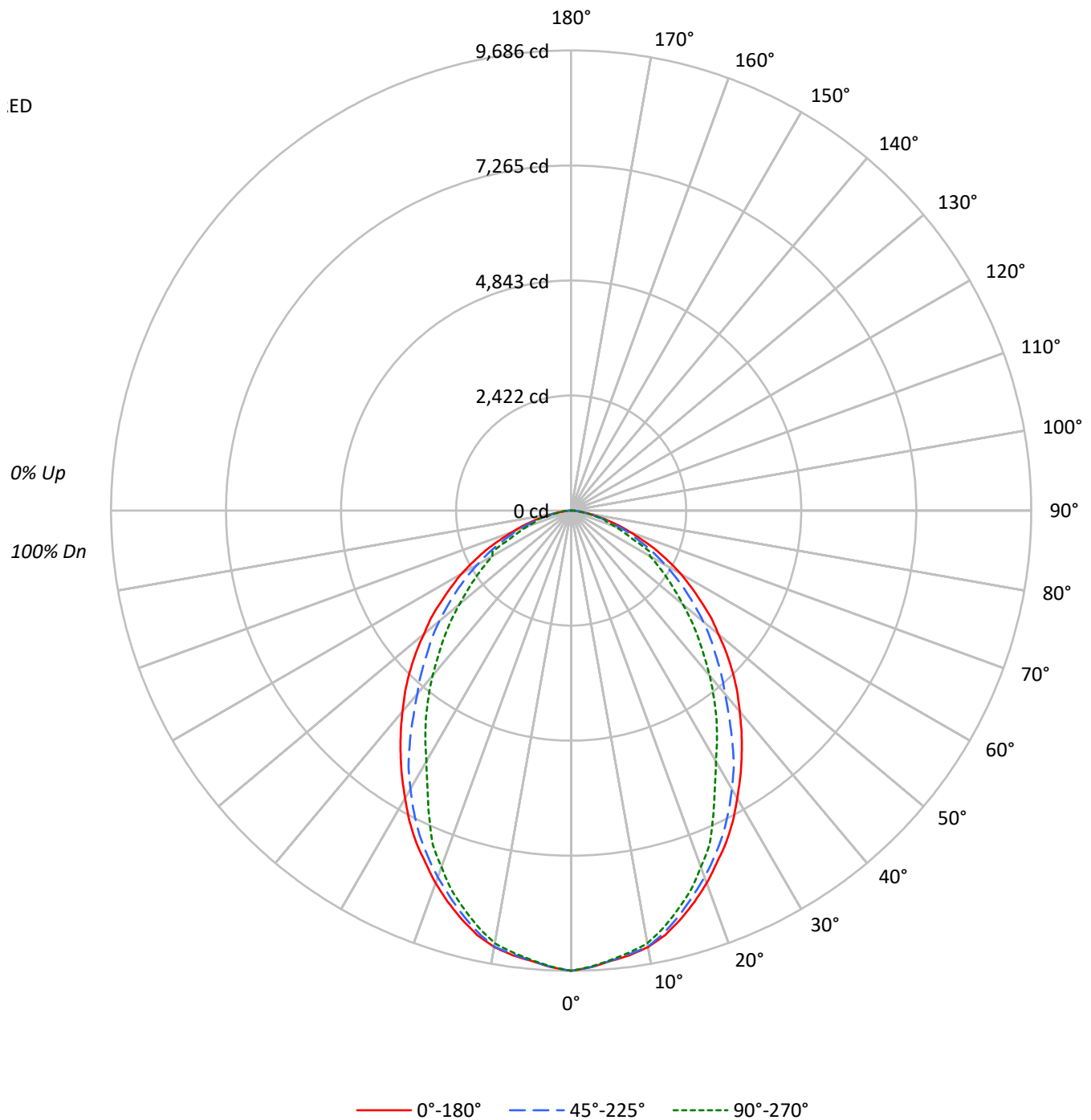
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563693

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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	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°	13033	13033	13033
5°	12856	12841	12826
10°	12745	12729	12637
15°	12401	12276	12105
20°	11945	11753	11432
25°	11454	11205	10507
30°	10856	10508	9465
35°	10282	9712	8755
40°	9697	8851	7966
45°	9141	8182	7202
50°	8462	7595	6423
55°	7828	6882	5753
60°	7172	6147	5153
65°	6310	5383	4564
70°	5198	4714	3877
75°	4133	3609	3784
80°	2776	2603	2430
85°	1729	2075	2421

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9141 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	901.7	4.7
10°-20°	2474.6	13.0
20°-30°	3425.9	18.0
30°-40°	3653.0	19.2
40°-50°	3332.6	17.5
50°-60°	2610.8	13.7
60°-70°	1701.6	8.9
70°-80°	753.9	4.0
80°-90°	161.9	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°	6802.2	35.8
0°-40°	10455.2	55.0
0°-60°	16398.6	86.2
0°-90°	19016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9686	9686	9686	9686	9686	
5°	9518	9507	9507	9496	9496	904
15°	8903	8903	8813	8723	8690	2503
25°	7716	7671	7548	7279	7077	3542
35°	6260	6215	5913	5465	5330	3914
45°	4804	4703	4300	3942	3785	3701
55°	3337	3236	2934	2587	2452	2993
65°	1982	1870	1691	1724	1433	1953
75°	795	739	694	661	728	852
85°	112	123	134	146	157	155
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9686.5	9686.5	9686.5	9686.5	9686.5
2.5°	9619.3	9619.3	9619.3	9608.1	9608.1
5°	9518.5	9507.3	9507.3	9496.1	9496.1
7.5°	9440.1	9428.9	9417.7	9406.5	9384.1
10°	9328.2	9328.2	9317.0	9261.0	9249.8
12.5°	9149.0	9137.8	9093.0	9014.6	8992.2
15°	8902.6	8902.6	8813.0	8723.4	8689.9
17.5°	8633.9	8622.7	8510.7	8421.1	8376.3
20°	8342.7	8320.3	8208.3	8062.7	7984.4
22.5°	8018.0	8018.0	7883.6	7693.2	7614.8
25°	7715.6	7670.8	7547.6	7278.9	7077.3
27.5°	7368.5	7301.3	7166.9	6786.1	6551.0
30°	6987.7	6954.1	6763.8	6271.0	6091.9
32.5°	6629.4	6573.4	6371.8	5856.7	5711.1
35°	6259.8	6215.0	5912.7	5464.8	5330.4
37.5°	5890.3	5834.3	5453.6	5095.2	4927.2
40°	5520.7	5453.6	5039.2	4714.5	4535.3
42.5°	5173.6	5084.0	4680.9	4333.7	4132.2
45°	4804.1	4703.3	4300.1	3941.8	3785.0
47.5°	4434.5	4344.9	3975.4	3605.8	3426.7
50°	4042.6	3964.2	3628.2	3258.7	3068.3
52.5°	3717.8	3594.6	3269.9	2900.3	2743.6
55°	3337.1	3236.3	2933.9	2586.8	2452.4
57.5°	2989.9	2889.2	2609.2	2284.4	2172.5
60°	2665.2	2519.6	2284.4	2004.5	1914.9
62.5°	2306.8	2194.9	1993.3	1758.1	1870.1
65°	1982.1	1870.1	1690.9	1724.5	1433.4
67.5°	1623.7	1567.8	1411.0	1254.2	1209.4
70°	1321.4	1254.2	1198.2	1030.2	985.4
72.5°	1052.6	985.4	907.1	817.5	783.9
75°	795.1	739.1	694.3	660.7	727.9
77.5°	548.7	526.3	492.7	459.1	447.9
80°	358.3	347.1	335.9	324.7	313.6
82.5°	212.8	212.8	212.8	212.8	212.8
85°	112.0	123.2	134.4	145.6	156.8
87.5°	67.2	67.2	78.4	89.6	100.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)