

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: P563493

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563493
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-LD4-3STD-35-UNV-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11368.0 lumens
Efficiency: N/A
Efficacy: 113.8 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

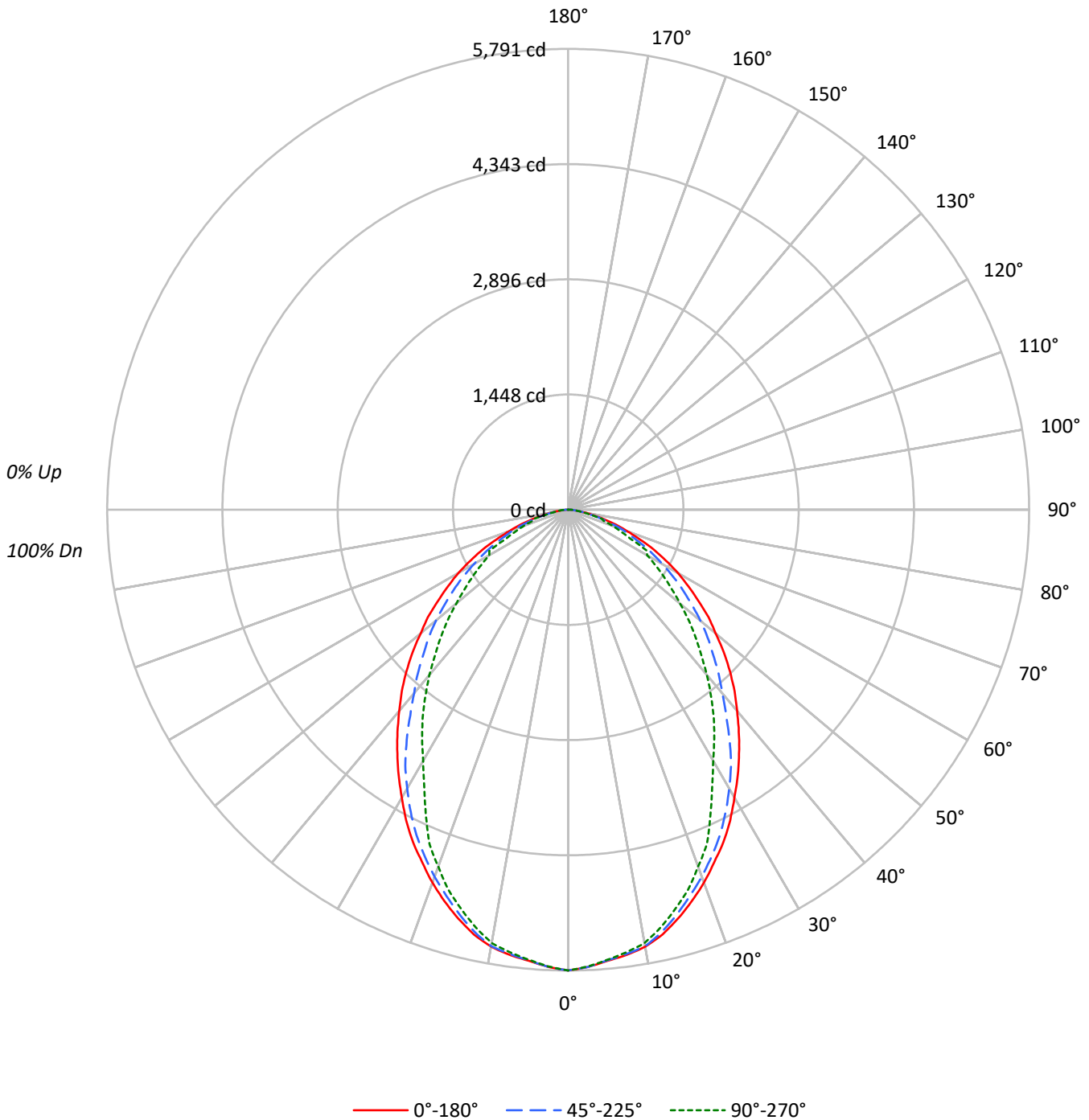
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563493

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P563493

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-93-86-EDD

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	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°	7791	7791	7791
5°	7685	7676	7667
10°	7619	7610	7555
15°	7413	7339	7236
20°	7141	7026	6834
25°	6848	6699	6281
30°	6490	6282	5658
35°	6147	5806	5234
40°	5797	5291	4762
45°	5465	4892	4305
50°	5059	4540	3840
55°	4680	4114	3439
60°	4288	3675	3081
65°	3772	3218	2728
70°	3107	2818	2317
75°	2471	2158	2262
80°	1660	1556	1452
85°	1033	1240	1447

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5465 cd/sqm



TEST NUMBER: P563493

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	539.0	4.7
10°-20°	1479.3	13.0
20°-30°	2048.1	18.0
30°-40°	2183.8	19.2
40°-50°	1992.3	17.5
50°-60°	1560.8	13.7
60°-70°	1017.2	8.9
70°-80°	450.7	4.0
80°-90°	96.8	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°	4066.4	35.8
0°-40°	6250.2	55.0
0°-60°	9803.3	86.2
0°-90°	11368.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5791	5791	5791	5791	5791	
5°	5690	5684	5684	5677	5677	540
15°	5322	5322	5268	5215	5195	1496
25°	4612	4586	4512	4351	4231	2118
35°	3742	3715	3535	3267	3187	2340
45°	2872	2812	2571	2356	2263	2212
55°	1995	1935	1754	1546	1466	1789
65°	1185	1118	1011	1031	857	1168
75°	475	442	415	395	435	509
85°	67	74	80	87	94	93
90°	0	0	0	0	0	

TEST NUMBER: P563493

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5790.7	5790.7	5790.7	5790.7	5790.7
2.5°	5750.5	5750.5	5750.5	5743.8	5743.8
5°	5690.3	5683.6	5683.6	5676.9	5676.9
7.5°	5643.4	5636.7	5630.0	5623.3	5610.0
10°	5576.5	5576.5	5569.8	5536.3	5529.6
12.5°	5469.4	5462.7	5435.9	5389.0	5375.7
15°	5322.1	5322.1	5268.5	5215.0	5194.9
17.5°	5161.4	5154.7	5087.8	5034.2	5007.5
20°	4987.4	4974.0	4907.0	4820.0	4773.1
22.5°	4793.2	4793.2	4712.9	4599.1	4552.2
25°	4612.5	4585.7	4512.1	4351.4	4230.9
27.5°	4405.0	4364.8	4284.5	4056.8	3916.3
30°	4177.3	4157.3	4043.5	3748.9	3641.8
32.5°	3963.1	3929.6	3809.1	3501.2	3414.2
35°	3742.2	3715.4	3534.7	3266.9	3186.6
37.5°	3521.3	3487.8	3260.2	3046.0	2945.6
40°	3300.4	3260.2	3012.5	2818.4	2711.3
42.5°	3092.8	3039.3	2798.3	2590.8	2470.3
45°	2871.9	2811.7	2570.7	2356.4	2262.7
47.5°	2651.0	2597.5	2376.5	2155.6	2048.5
50°	2416.7	2369.8	2169.0	1948.1	1834.3
52.5°	2222.6	2148.9	1954.8	1733.9	1640.1
55°	1994.9	1934.7	1753.9	1546.4	1466.1
57.5°	1787.4	1727.2	1559.8	1365.7	1298.7
60°	1593.3	1506.3	1365.7	1198.3	1144.8
62.5°	1379.1	1312.1	1191.6	1051.0	1118.0
65°	1184.9	1118.0	1010.9	1030.9	856.9
67.5°	970.7	937.2	843.5	749.8	723.0
70°	789.9	749.8	716.3	615.9	589.1
72.5°	629.3	589.1	542.3	488.7	468.6
75°	475.3	441.8	415.1	395.0	435.1
77.5°	328.0	314.6	294.6	274.5	267.8
80°	214.2	207.5	200.8	194.1	187.4
82.5°	127.2	127.2	127.2	127.2	127.2
85°	66.9	73.6	80.3	87.0	93.7
87.5°	40.2	40.2	46.9	53.6	60.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)