

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: P563942

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563942
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-LD4-4LO-40-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9293.0 lumens
Efficiency: N/A
Efficacy: 99.3 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

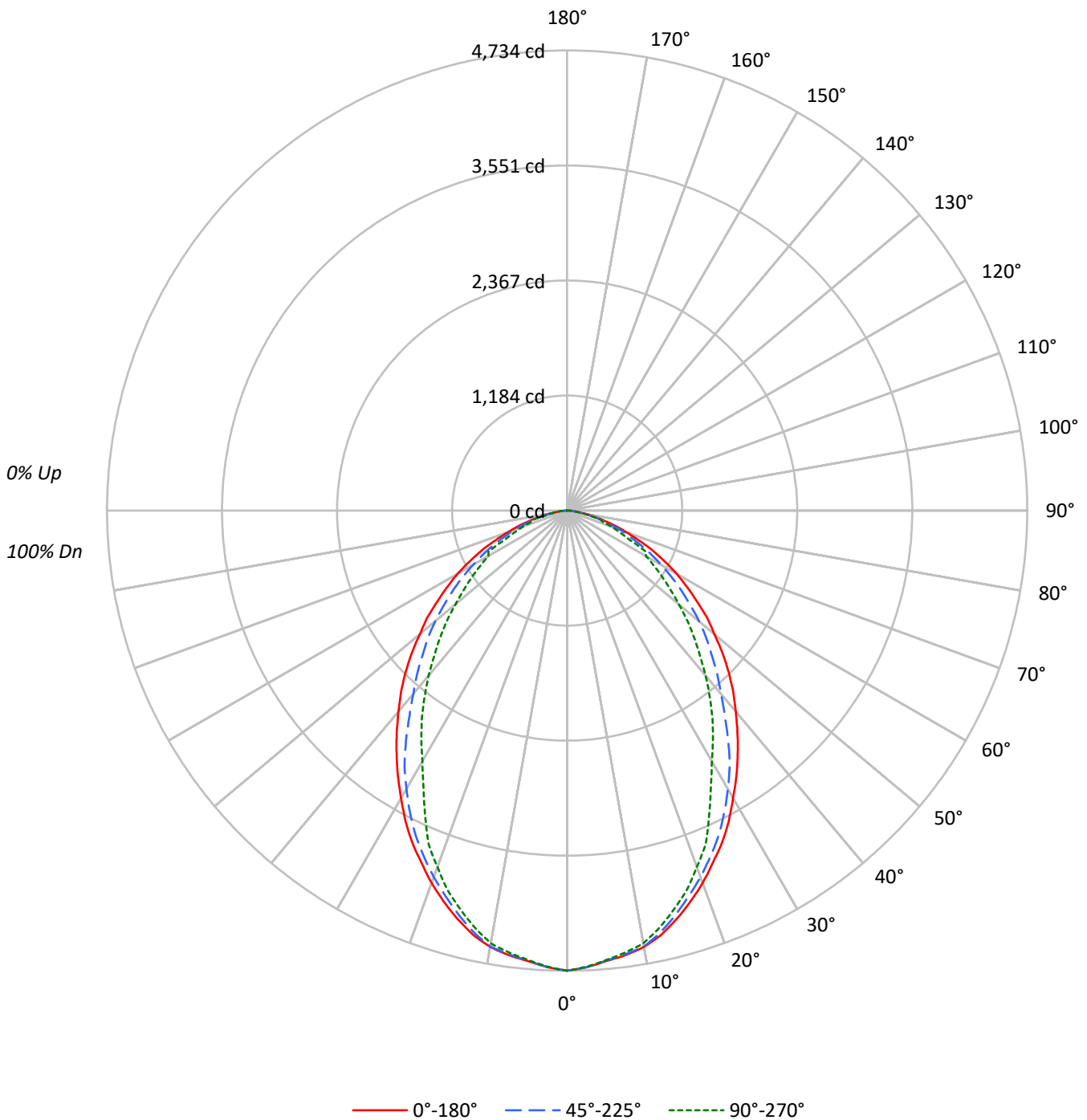
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6369	6369	6369
5°	6283	6275	6268
10°	6228	6221	6176
15°	6060	5999	5915
20°	5838	5744	5587
25°	5598	5476	5135
30°	5306	5135	4625
35°	5025	4746	4279
40°	4739	4325	3893
45°	4467	3999	3520
50°	4135	3711	3139
55°	3826	3363	2811
60°	3505	3004	2518
65°	3084	2631	2230
70°	2541	2304	1895
75°	2020	1764	1849
80°	1357	1272	1187
85°	844	1014	1183

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4467 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	440.6	4.7
10°-20°	1209.3	13.0
20°-30°	1674.2	18.0
30°-40°	1785.2	19.2
40°-50°	1628.6	17.5
50°-60°	1275.9	13.7
60°-70°	831.6	8.9
70°-80°	368.4	4.0
80°-90°	79.1	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°	3324.2	35.8
0°-40°	5109.4	55.0
0°-60°	8013.9	86.2
0°-90°	9293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9293.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4734	4734	4734	4734	4734	
5°	4652	4646	4646	4641	4641	442
15°	4351	4351	4307	4263	4247	1223
25°	3771	3749	3688	3557	3459	1731
35°	3059	3037	2890	2671	2605	1913
45°	2348	2298	2101	1926	1850	1808
55°	1631	1582	1434	1264	1198	1463
65°	969	914	826	843	700	955
75°	388	361	339	323	356	416
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4733.7	4733.7	4733.7	4733.7	4733.7
2.5°	4700.9	4700.9	4700.9	4695.4	4695.4
5°	4651.6	4646.2	4646.2	4640.7	4640.7
7.5°	4613.3	4607.9	4602.4	4596.9	4586.0
10°	4558.6	4558.6	4553.1	4525.8	4520.3
12.5°	4471.0	4465.6	4443.7	4405.4	4394.4
15°	4350.7	4350.7	4306.9	4263.1	4246.7
17.5°	4219.3	4213.8	4159.1	4115.3	4093.4
20°	4077.0	4066.1	4011.4	3940.2	3901.9
22.5°	3918.3	3918.3	3852.7	3759.6	3721.3
25°	3770.6	3748.7	3688.5	3557.1	3458.6
27.5°	3600.9	3568.1	3502.4	3316.3	3201.4
30°	3414.9	3398.4	3305.4	3064.6	2977.1
32.5°	3239.7	3212.4	3113.9	2862.1	2791.0
35°	3059.1	3037.2	2889.5	2670.6	2604.9
37.5°	2878.5	2851.2	2665.1	2490.0	2407.9
40°	2698.0	2665.1	2462.6	2303.9	2216.4
42.5°	2528.3	2484.5	2287.5	2117.9	2019.4
45°	2347.7	2298.5	2101.4	1926.3	1849.7
47.5°	2167.1	2123.3	1942.7	1762.2	1674.6
50°	1975.6	1937.3	1773.1	1592.5	1499.5
52.5°	1816.9	1756.7	1598.0	1417.4	1340.8
55°	1630.8	1581.6	1433.8	1264.2	1198.5
57.5°	1461.2	1411.9	1275.1	1116.4	1061.7
60°	1302.5	1231.3	1116.4	979.6	935.8
62.5°	1127.3	1072.6	974.1	859.2	913.9
65°	968.6	913.9	826.4	842.8	700.5
67.5°	793.5	766.2	689.5	612.9	591.0
70°	645.8	612.9	585.6	503.5	481.6
72.5°	514.4	481.6	443.3	399.5	383.1
75°	388.5	361.2	339.3	322.9	355.7
77.5°	268.2	257.2	240.8	224.4	218.9
80°	175.1	169.6	164.2	158.7	153.2
82.5°	104.0	104.0	104.0	104.0	104.0
85°	54.7	60.2	65.7	71.1	76.6
87.5°	32.8	32.8	38.3	43.8	49.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)