

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: P561838

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561838
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-12-4-LD4-2STD-40-UNV-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 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: 5398.0 lumens
Efficiency: N/A
Efficacy: 81.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

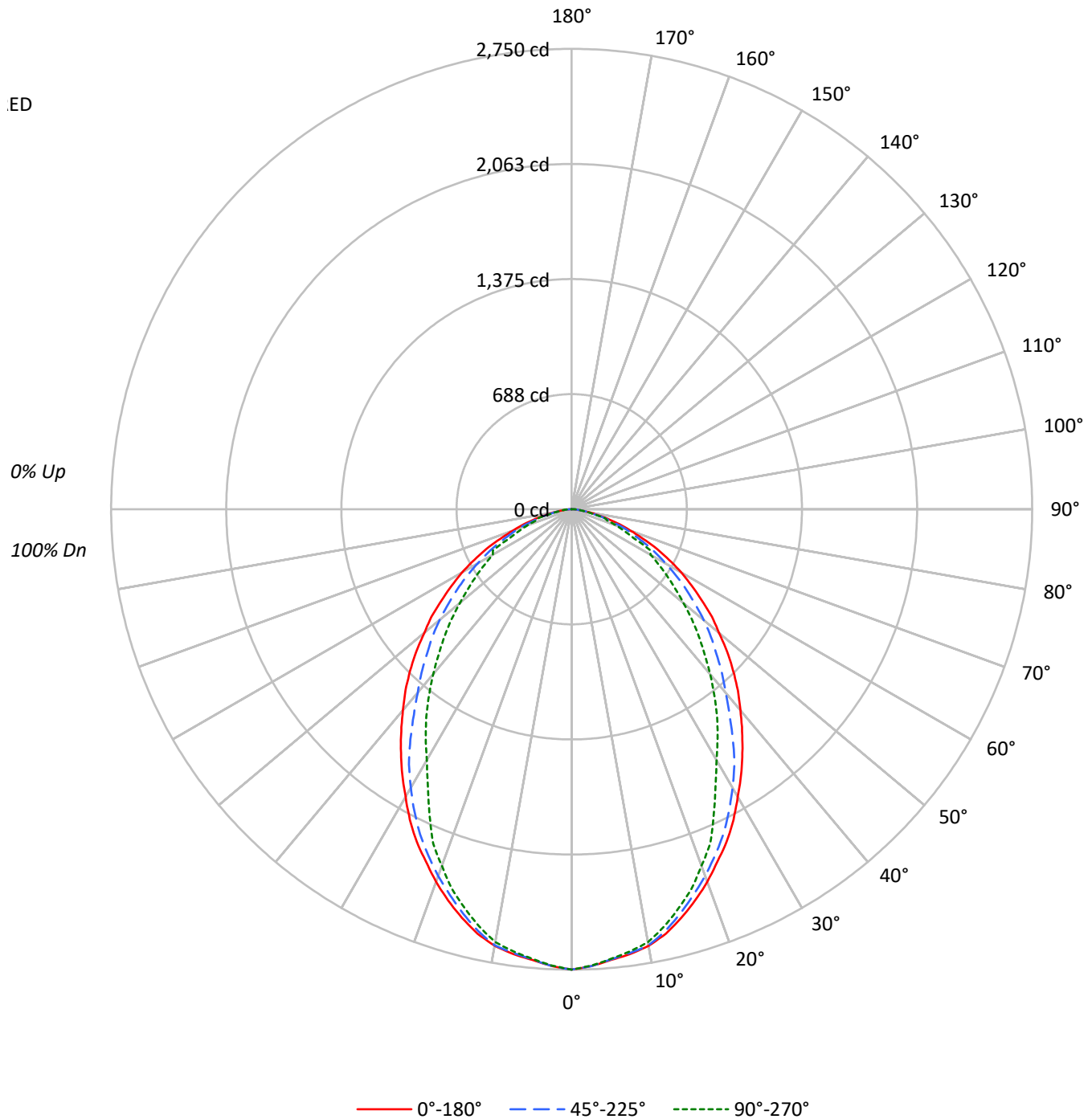
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7399	7399	7399
5°	7299	7290	7282
10°	7235	7227	7175
15°	7041	6970	6872
20°	6782	6673	6491
25°	6503	6361	5965
30°	6164	5966	5373
35°	5838	5514	4971
40°	5505	5025	4522
45°	5190	4646	4089
50°	4804	4312	3646
55°	4444	3907	3266
60°	4072	3490	2926
65°	3582	3056	2591
70°	2951	2676	2201
75°	2347	2049	2148
80°	1576	1478	1379
85°	982	1176	1374

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5190 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.0	4.7
10°-20°	702.5	13.0
20°-30°	972.5	18.0
30°-40°	1037.0	19.2
40°-50°	946.0	17.5
50°-60°	741.1	13.7
60°-70°	483.0	8.9
70°-80°	214.0	4.0
80°-90°	45.9	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°	1930.9	35.8
0°-40°	2967.9	55.0
0°-60°	4655.0	86.2
0°-90°	5398.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5398.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2750	2750	2750	2750	2750	
5°	2702	2699	2699	2696	2696	256
15°	2527	2527	2502	2476	2467	710
25°	2190	2178	2142	2066	2009	1006
35°	1777	1764	1678	1551	1513	1111
45°	1364	1335	1221	1119	1074	1050
55°	947	919	833	734	696	850
65°	563	531	480	490	407	554
75°	226	210	197	188	207	242
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2749.7	2749.7	2749.7	2749.7	2749.7
2.5°	2730.6	2730.6	2730.6	2727.4	2727.4
5°	2702.0	2698.8	2698.8	2695.6	2695.6
7.5°	2679.7	2676.6	2673.4	2670.2	2663.8
10°	2647.9	2647.9	2644.8	2628.9	2625.7
12.5°	2597.1	2593.9	2581.2	2558.9	2552.6
15°	2527.2	2527.2	2501.7	2476.3	2466.8
17.5°	2450.9	2447.7	2415.9	2390.5	2377.7
20°	2368.2	2361.9	2330.1	2288.7	2266.5
22.5°	2276.0	2276.0	2237.9	2183.8	2161.6
25°	2190.2	2177.5	2142.5	2066.2	2009.0
27.5°	2091.7	2072.6	2034.4	1926.4	1859.6
30°	1983.6	1974.0	1920.0	1780.1	1729.3
32.5°	1881.9	1866.0	1808.7	1662.5	1621.2
35°	1777.0	1764.2	1678.4	1551.3	1513.1
37.5°	1672.1	1656.2	1548.1	1446.4	1398.7
40°	1567.2	1548.1	1430.5	1338.3	1287.4
42.5°	1468.6	1443.2	1328.7	1230.2	1173.0
45°	1363.7	1335.1	1220.7	1118.9	1074.4
47.5°	1258.8	1233.4	1128.5	1023.6	972.7
50°	1147.5	1125.3	1029.9	925.0	871.0
52.5°	1055.4	1020.4	928.2	823.3	778.8
55°	947.3	918.7	832.8	734.3	696.2
57.5°	848.7	820.1	740.7	648.5	616.7
60°	756.6	715.2	648.5	569.0	543.6
62.5°	654.8	623.0	565.8	499.1	530.9
65°	562.6	530.9	480.0	489.5	406.9
67.5°	460.9	445.0	400.5	356.0	343.3
70°	375.1	356.0	340.1	292.5	279.7
72.5°	298.8	279.7	257.5	232.1	222.5
75°	225.7	209.8	197.1	187.5	206.6
77.5°	155.8	149.4	139.9	130.3	127.2
80°	101.7	98.5	95.4	92.2	89.0
82.5°	60.4	60.4	60.4	60.4	60.4
85°	31.8	35.0	38.1	41.3	44.5
87.5°	19.1	19.1	22.3	25.4	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)