

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: P561445

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561445
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-LD4-2HI-40-UNV-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7991.0 lumens
Efficiency: N/A
Efficacy: 92.5 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

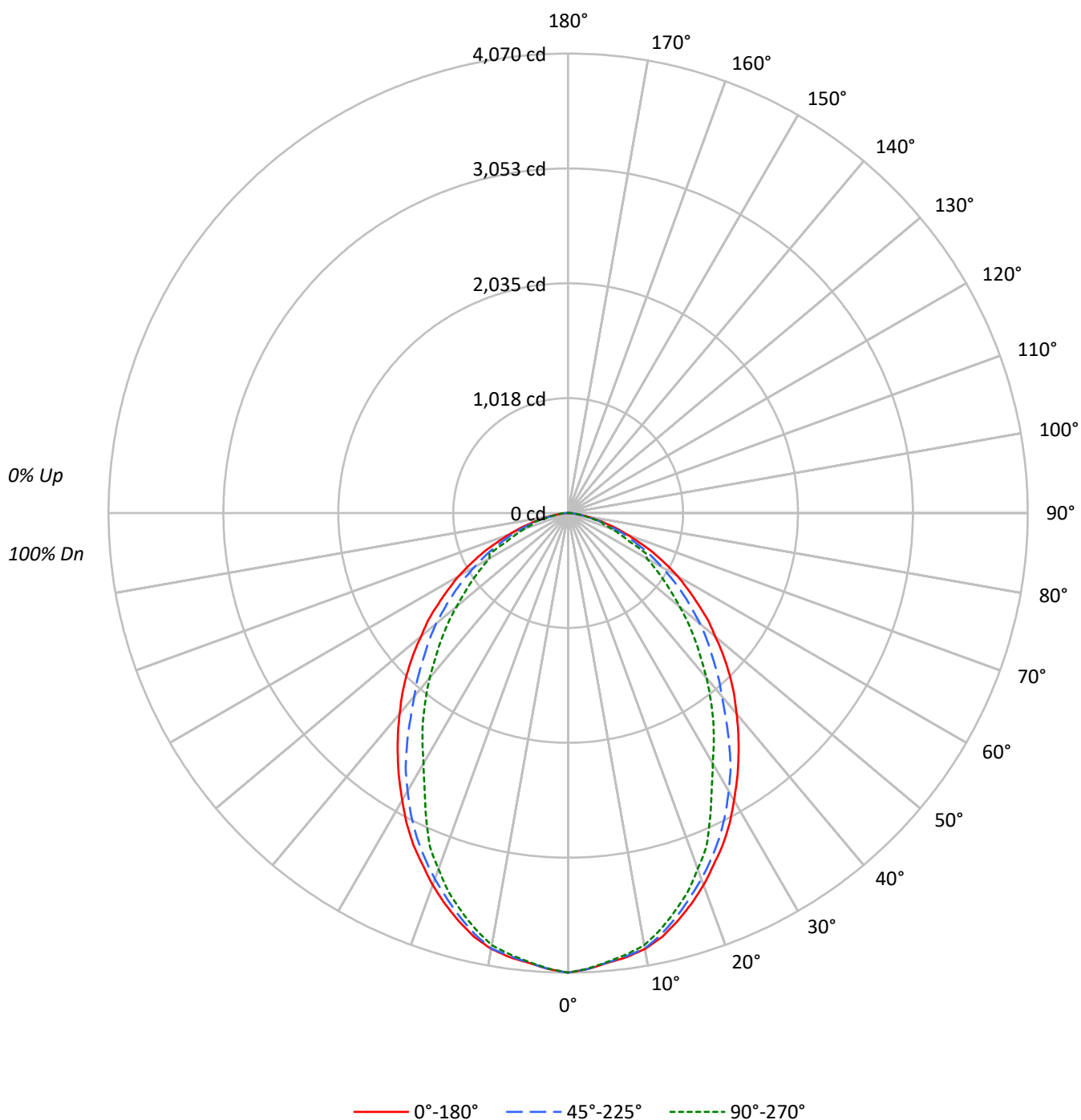
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					0
RW	70	50	30	10	70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	110	106	102	99	108	104	100	97		100	97	94		96	94	91		92	90	89
2	101	94	88	83	99	92	87	82		89	84	80		86	82	78		83	79	77
3	93	84	77	71	91	82	76	70		79	74	69		77	72	68		74	70	67
4	86	75	67	61	84	74	66	61		72	65	60		69	64	59		67	62	58
5	80	68	60	54	78	67	59	53		65	58	53		63	57	52		61	56	52
6	74	62	53	48	72	61	53	47		59	52	47		57	51	47		56	50	46
7	69	56	48	43	67	56	48	42		54	47	42		53	46	42		51	46	42
8	65	52	44	38	63	51	44	38		50	43	38		49	42	38		48	42	38
9	61	48	40	35	59	47	40	35		46	39	35		45	39	34		44	38	34
10	57	44	37	32	56	44	37	32		43	36	32		42	36	32		41	36	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10954	10954	10954
5°	10805	10792	10779
10°	10711	10698	10621
15°	10422	10318	10173
20°	10039	9878	9608
25°	9627	9417	8831
30°	9124	8832	7954
35°	8641	8162	7359
40°	8150	7439	6695
45°	7683	6877	6053
50°	7112	6383	5398
55°	6579	5784	4835
60°	6028	5167	4331
65°	5303	4525	3835
70°	4369	3961	3258
75°	3474	3034	3180
80°	2334	2188	2042
85°	1454	1744	2035

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7683 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.9	4.7
10°-20°	1039.9	13.0
20°-30°	1439.7	18.0
30°-40°	1535.1	19.2
40°-50°	1400.4	17.5
50°-60°	1097.1	13.7
60°-70°	715.0	8.9
70°-80°	316.8	4.0
80°-90°	68.0	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°	2858.4	35.8
0°-40°	4393.5	55.0
0°-60°	6891.1	86.2
0°-90°	7991.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7991.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4070	4070	4070	4070	4070	
5°	4000	3995	3995	3990	3990	380
15°	3741	3741	3704	3666	3652	1052
25°	3242	3224	3172	3059	2974	1489
35°	2630	2612	2485	2296	2240	1645
45°	2019	1976	1807	1656	1591	1555
55°	1402	1360	1233	1087	1031	1258
65°	833	786	711	725	602	821
75°	334	311	292	278	306	358
85°	47	52	56	61	66	65
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4070.5	4070.5	4070.5	4070.5	4070.5
2.5°	4042.3	4042.3	4042.3	4037.6	4037.6
5°	3999.9	3995.2	3995.2	3990.5	3990.5
7.5°	3967.0	3962.3	3957.6	3952.9	3943.5
10°	3919.9	3919.9	3915.2	3891.7	3887.0
12.5°	3844.6	3839.9	3821.1	3788.2	3778.7
15°	3741.1	3741.1	3703.5	3665.8	3651.7
17.5°	3628.2	3623.5	3576.4	3538.8	3519.9
20°	3505.8	3496.4	3449.3	3388.2	3355.2
22.5°	3369.3	3369.3	3312.9	3232.9	3199.9
25°	3242.3	3223.5	3171.7	3058.8	2974.1
27.5°	3096.4	3068.2	3011.7	2851.7	2752.9
30°	2936.4	2922.3	2842.3	2635.2	2559.9
32.5°	2785.8	2762.3	2677.6	2461.1	2400.0
35°	2630.5	2611.7	2484.7	2296.4	2240.0
37.5°	2475.2	2451.7	2291.7	2141.1	2070.5
40°	2320.0	2291.7	2117.6	1981.1	1905.8
42.5°	2174.1	2136.4	1967.0	1821.1	1736.4
45°	2018.8	1976.4	1807.0	1656.4	1590.6
47.5°	1863.5	1825.8	1670.6	1515.3	1440.0
50°	1698.8	1665.8	1524.7	1369.4	1289.4
52.5°	1562.3	1510.6	1374.1	1218.8	1152.9
55°	1402.3	1360.0	1232.9	1087.0	1030.6
57.5°	1256.4	1214.1	1096.4	960.0	912.9
60°	1120.0	1058.8	960.0	842.3	804.7
62.5°	969.4	922.3	837.6	738.8	785.9
65°	832.9	785.9	710.6	724.7	602.3
67.5°	682.3	658.8	592.9	527.0	508.2
70°	555.3	527.0	503.5	432.9	414.1
72.5°	442.3	414.1	381.2	343.5	329.4
75°	334.1	310.6	291.8	277.6	305.9
77.5°	230.6	221.2	207.1	192.9	188.2
80°	150.6	145.9	141.2	136.5	131.8
82.5°	89.4	89.4	89.4	89.4	89.4
85°	47.1	51.8	56.5	61.2	65.9
87.5°	28.2	28.2	32.9	37.6	42.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)