

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: P561515

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561515
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-50-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8405.0 lumens
Efficiency: N/A
Efficacy: 97.3 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

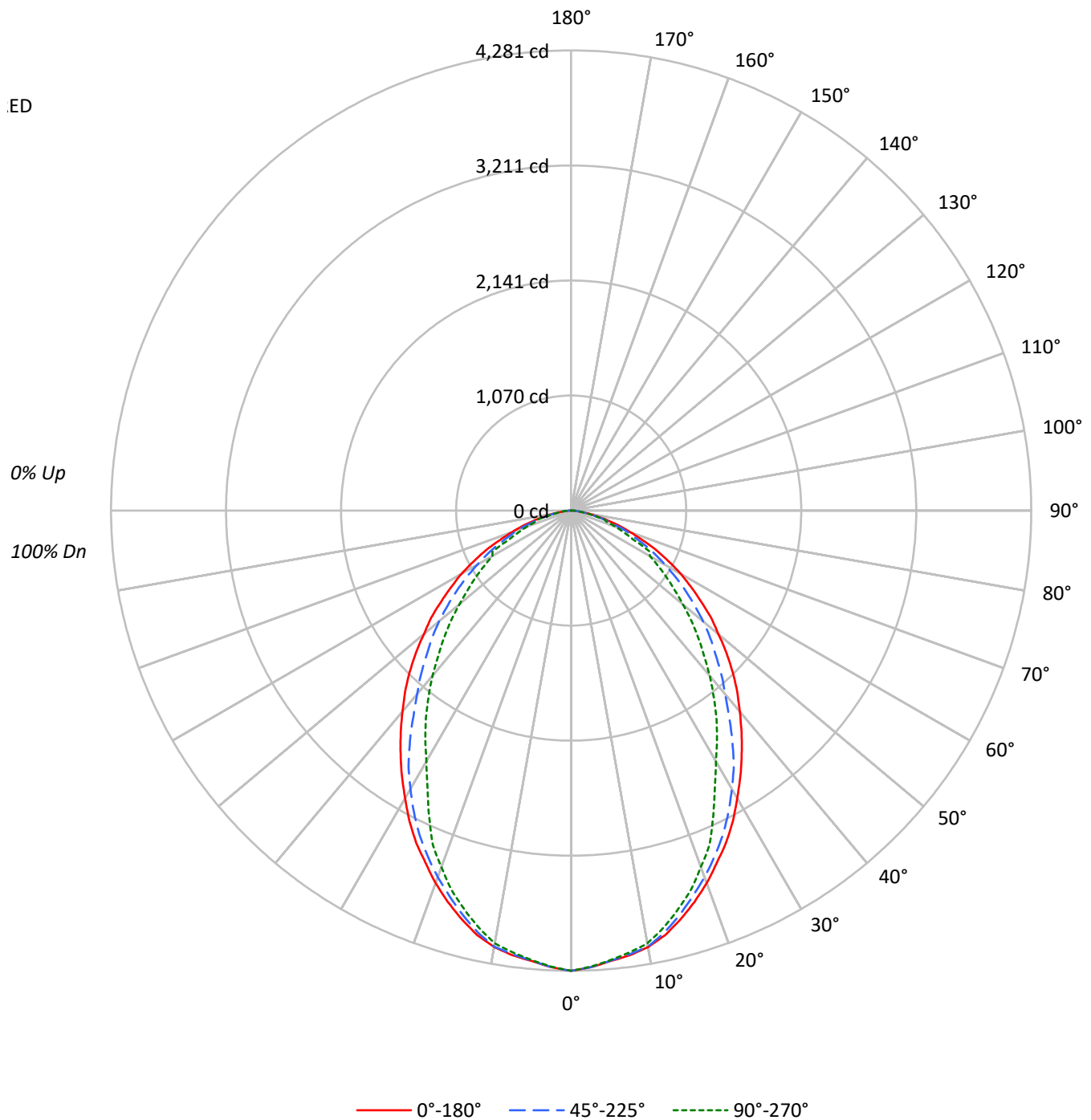
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				10	0
RW	70	50	30	10	70	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°	11521	11521	11521
5°	11365	11351	11338
10°	11266	11253	11172
15°	10962	10852	10700
20°	10560	10389	10106
25°	10126	9905	9288
30°	9597	9290	8367
35°	9089	8585	7740
40°	8572	7824	7042
45°	8081	7233	6367
50°	7480	6714	5678
55°	6920	6084	5086
60°	6340	5434	4555
65°	5578	4759	4034
70°	4596	4167	3427
75°	3654	3191	3345
80°	2455	2301	2148
85°	1528	1834	2140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8081 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	398.5	4.7
10°-20°	1093.8	13.0
20°-30°	1514.2	18.0
30°-40°	1614.6	19.2
40°-50°	1473.0	17.5
50°-60°	1154.0	13.7
60°-70°	752.1	8.9
70°-80°	333.2	4.0
80°-90°	71.5	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°	3006.5	35.8
0°-40°	4621.1	55.0
0°-60°	7248.1	86.2
0°-90°	8405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8405.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4281	4281	4281	4281	4281	
5°	4207	4202	4202	4197	4197	399
15°	3935	3935	3895	3856	3841	1106
25°	3410	3390	3336	3217	3128	1566
35°	2767	2747	2613	2415	2356	1730
45°	2123	2079	1901	1742	1673	1636
55°	1475	1430	1297	1143	1084	1323
65°	876	827	747	762	634	863
75°	351	327	307	292	322	377
85°	50	54	59	64	69	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4281.4	4281.4	4281.4	4281.4	4281.4
2.5°	4251.7	4251.7	4251.7	4246.7	4246.7
5°	4207.2	4202.2	4202.2	4197.3	4197.3
7.5°	4172.5	4167.6	4162.6	4157.7	4147.8
10°	4123.0	4123.0	4118.1	4093.3	4088.4
12.5°	4043.8	4038.9	4019.1	3984.4	3974.5
15°	3934.9	3934.9	3895.3	3855.7	3840.9
17.5°	3816.1	3811.2	3761.7	3722.1	3702.3
20°	3687.4	3677.5	3628.0	3563.7	3529.1
22.5°	3543.9	3543.9	3484.5	3400.4	3365.7
25°	3410.3	3390.5	3336.0	3217.2	3128.1
27.5°	3256.8	3227.1	3167.7	2999.5	2895.5
30°	3088.5	3073.7	2989.6	2771.8	2692.6
32.5°	2930.2	2905.4	2816.3	2588.6	2524.3
35°	2766.8	2747.0	2613.4	2415.4	2356.0
37.5°	2603.5	2578.7	2410.4	2252.1	2177.8
40°	2440.1	2410.4	2227.3	2083.8	2004.6
42.5°	2286.7	2247.1	2068.9	1915.5	1826.4
45°	2123.4	2078.8	1900.6	1742.3	1673.0
47.5°	1960.0	1920.4	1757.1	1593.8	1514.6
50°	1786.8	1752.2	1603.7	1440.3	1356.2
52.5°	1643.3	1588.8	1445.3	1281.9	1212.6
55°	1475.0	1430.4	1296.8	1143.4	1084.0
57.5°	1321.5	1277.0	1153.3	1009.7	960.2
60°	1178.0	1113.7	1009.7	886.0	846.4
62.5°	1019.6	970.1	881.0	777.1	826.6
65°	876.1	826.6	747.4	762.2	633.5
67.5°	717.7	692.9	623.6	554.4	534.6
70°	584.1	554.4	529.6	455.4	435.6
72.5°	465.3	435.6	400.9	361.3	346.5
75°	351.4	326.7	306.9	292.0	321.7
77.5°	242.5	232.6	217.8	202.9	198.0
80°	158.4	153.4	148.5	143.5	138.6
82.5°	94.0	94.0	94.0	94.0	94.0
85°	49.5	54.4	59.4	64.3	69.3
87.5°	29.7	29.7	34.6	39.6	44.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)