

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: P561355

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561355
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-35-UNV-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7758.0 lumens
Efficiency: N/A
Efficacy: 89.8 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

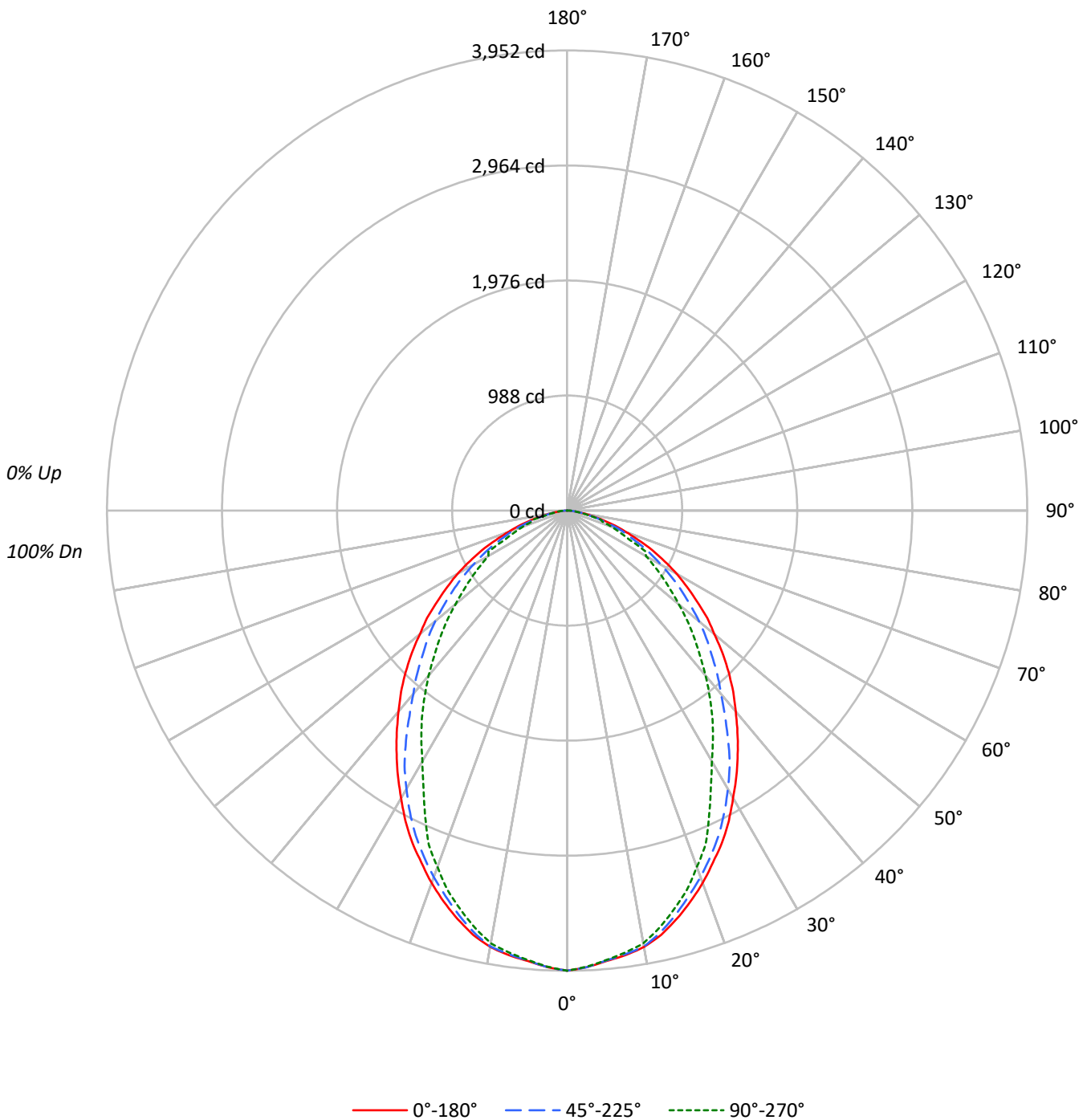
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10634	10634	10634
5°	10490	10477	10465
10°	10399	10386	10311
15°	10118	10017	9877
20°	9747	9590	9328
25°	9346	9143	8573
30°	8858	8574	7723
35°	8389	7924	7144
40°	7912	7222	6500
45°	7459	6676	5877
50°	6905	6197	5241
55°	6387	5616	4694
60°	5852	5016	4204
65°	5149	4393	3724
70°	4242	3846	3163
75°	3373	2946	3088
80°	2266	2125	1982
85°	1411	1692	1976

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7459 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.9	4.7
10°-20°	1009.6	13.0
20°-30°	1397.7	18.0
30°-40°	1490.3	19.2
40°-50°	1359.6	17.5
50°-60°	1065.1	13.7
60°-70°	694.2	8.9
70°-80°	307.6	4.0
80°-90°	66.0	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°	2775.1	35.8
0°-40°	4265.4	55.0
0°-60°	6690.2	86.2
0°-90°	7758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7758.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3952	3952	3952	3952	3952	
5°	3883	3879	3879	3874	3874	369
15°	3632	3632	3596	3559	3545	1021
25°	3148	3130	3079	2970	2887	1445
35°	2554	2536	2412	2230	2175	1597
45°	1960	1919	1754	1608	1544	1510
55°	1361	1320	1197	1055	1000	1221
65°	809	763	690	704	585	797
75°	324	302	283	270	297	348
85°	46	50	55	59	64	63
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3951.8	3951.8	3951.8	3951.8	3951.8
2.5°	3924.4	3924.4	3924.4	3919.8	3919.8
5°	3883.3	3878.7	3878.7	3874.2	3874.2
7.5°	3851.3	3846.7	3842.2	3837.6	3828.5
10°	3805.6	3805.6	3801.1	3778.2	3773.6
12.5°	3732.5	3728.0	3709.7	3677.7	3668.6
15°	3632.0	3632.0	3595.5	3558.9	3545.2
17.5°	3522.4	3517.8	3472.1	3435.6	3417.3
20°	3403.6	3394.5	3348.8	3289.4	3257.4
22.5°	3271.1	3271.1	3216.3	3138.6	3106.6
25°	3147.8	3129.5	3079.2	2969.6	2887.3
27.5°	3006.1	2978.7	2923.9	2768.6	2672.6
30°	2850.8	2837.1	2759.4	2558.4	2485.3
32.5°	2704.6	2681.8	2599.5	2389.4	2330.0
35°	2553.8	2535.6	2412.2	2229.5	2174.6
37.5°	2403.1	2380.2	2224.9	2078.7	2010.2
40°	2252.3	2224.9	2055.9	1923.4	1850.3
42.5°	2110.7	2074.1	1909.7	1768.0	1685.8
45°	1959.9	1918.8	1754.3	1608.1	1544.2
47.5°	1809.2	1772.6	1621.8	1471.1	1398.0
50°	1649.3	1617.3	1480.2	1329.5	1251.8
52.5°	1516.8	1466.5	1334.0	1183.3	1119.3
55°	1361.4	1320.3	1197.0	1055.3	1000.5
57.5°	1219.8	1178.7	1064.5	932.0	886.3
60°	1087.3	1027.9	932.0	817.8	781.2
62.5°	941.1	895.4	813.2	717.3	763.0
65°	808.6	763.0	689.9	703.6	584.8
67.5°	662.4	639.6	575.6	511.7	493.4
70°	539.1	511.7	488.8	420.3	402.0
72.5°	429.4	402.0	370.1	333.5	319.8
75°	324.4	301.5	283.3	269.5	297.0
77.5°	223.9	214.7	201.0	187.3	182.7
80°	146.2	141.6	137.1	132.5	127.9
82.5°	86.8	86.8	86.8	86.8	86.8
85°	45.7	50.3	54.8	59.4	64.0
87.5°	27.4	27.4	32.0	36.5	41.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)