

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: P561088

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561088
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-LD4-1LO-50-UNV-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2106.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

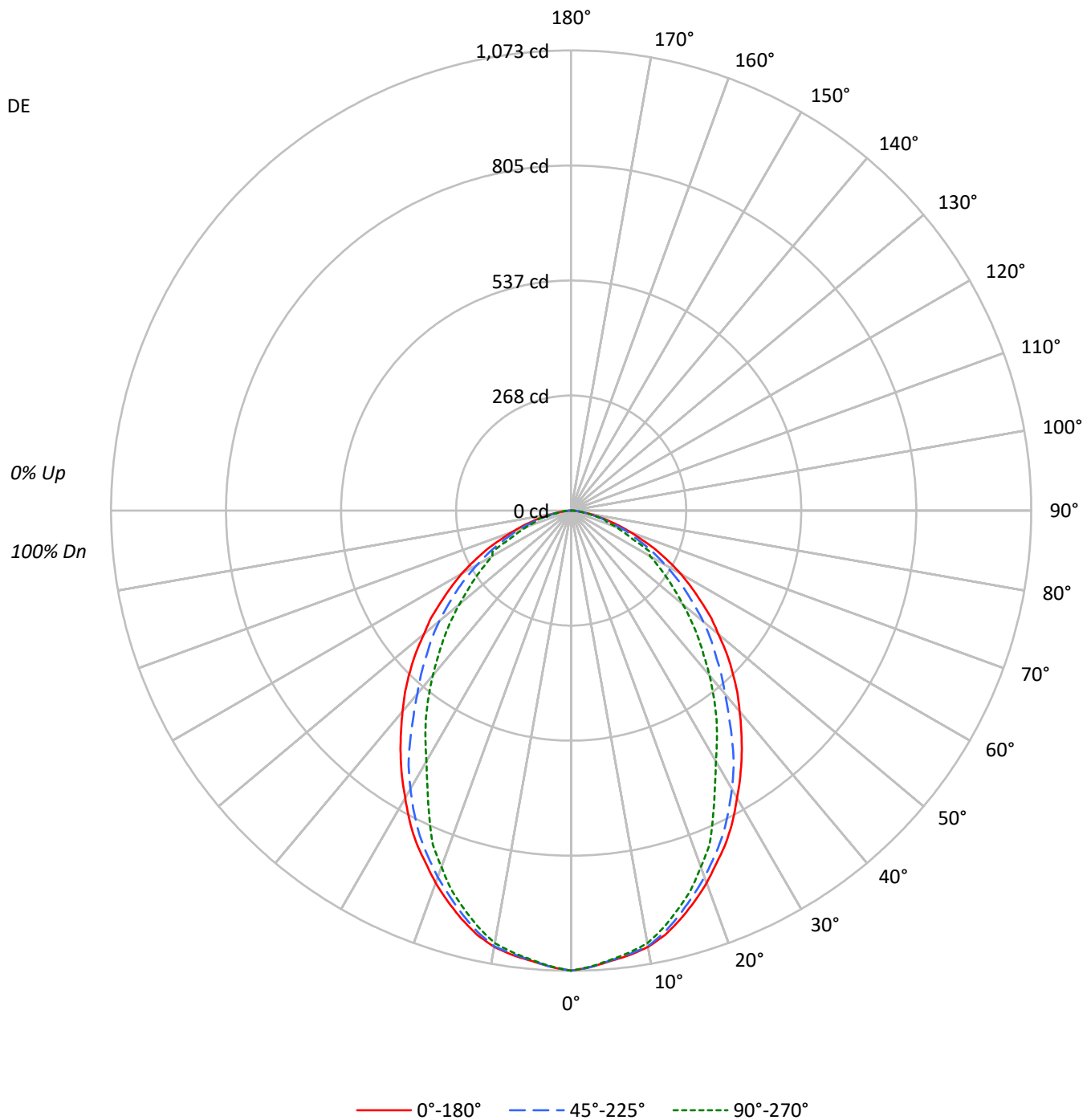
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
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°	2887	2887	2887
5°	2848	2844	2841
10°	2823	2819	2799
15°	2747	2719	2681
20°	2646	2603	2532
25°	2537	2482	2327
30°	2405	2328	2096
35°	2278	2151	1939
40°	2148	1961	1764
45°	2025	1812	1595
50°	1874	1682	1423
55°	1734	1524	1274
60°	1589	1362	1142
65°	1398	1193	1011
70°	1151	1044	858
75°	916	800	838
80°	615	576	538
85°	383	460	537

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2025 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.9	4.7
10°-20°	274.1	13.0
20°-30°	379.4	18.0
30°-40°	404.6	19.2
40°-50°	369.1	17.5
50°-60°	289.1	13.7
60°-70°	188.5	8.9
70°-80°	83.5	4.0
80°-90°	17.9	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°	753.3	35.8
0°-40°	1157.9	55.0
0°-60°	1816.1	86.2
0°-90°	2106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2106.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1073	1073	1073	1073	1073	
5°	1054	1053	1053	1052	1052	100
15°	986	986	976	966	962	277
25°	854	850	836	806	784	392
35°	693	688	655	605	590	433
45°	532	521	476	436	419	410
55°	370	358	325	286	272	331
65°	220	207	187	191	159	216
75°	88	82	77	73	81	94
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1072.8	1072.8	1072.8	1072.8	1072.8
2.5°	1065.3	1065.3	1065.3	1064.1	1064.1
5°	1054.2	1052.9	1052.9	1051.7	1051.7
7.5°	1045.5	1044.2	1043.0	1041.8	1039.3
10°	1033.1	1033.1	1031.8	1025.6	1024.4
12.5°	1013.2	1012.0	1007.0	998.4	995.9
15°	986.0	986.0	976.0	966.1	962.4
17.5°	956.2	954.9	942.5	932.6	927.7
20°	923.9	921.5	909.1	892.9	884.3
22.5°	888.0	888.0	873.1	852.0	843.3
25°	854.5	849.5	835.9	806.1	783.8
27.5°	816.0	808.6	793.7	751.6	725.5
30°	773.9	770.2	749.1	694.5	674.7
32.5°	734.2	728.0	705.7	648.6	632.5
35°	693.3	688.3	654.8	605.2	590.3
37.5°	652.3	646.1	604.0	564.3	545.7
40°	611.4	604.0	558.1	522.1	502.3
42.5°	573.0	563.0	518.4	480.0	457.6
45°	532.0	520.9	476.2	436.5	419.2
47.5°	491.1	481.2	440.3	399.3	379.5
50°	447.7	439.0	401.8	360.9	339.8
52.5°	411.7	398.1	362.1	321.2	303.8
55°	369.6	358.4	324.9	286.5	271.6
57.5°	331.1	320.0	289.0	253.0	240.6
60°	295.2	279.0	253.0	222.0	212.1
62.5°	255.5	243.1	220.8	194.7	207.1
65°	219.5	207.1	187.3	191.0	158.7
67.5°	179.8	173.6	156.3	138.9	133.9
70°	146.3	138.9	132.7	114.1	109.1
72.5°	116.6	109.1	100.5	90.5	86.8
75°	88.1	81.9	76.9	73.2	80.6
77.5°	60.8	58.3	54.6	50.8	49.6
80°	39.7	38.4	37.2	36.0	34.7
82.5°	23.6	23.6	23.6	23.6	23.6
85°	12.4	13.6	14.9	16.1	17.4
87.5°	7.4	7.4	8.7	9.9	11.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)