

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: P561542

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561542
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-LD4-2LO-35-UNV-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3697.0 lumens
Efficiency: N/A
Efficacy: 79.0 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

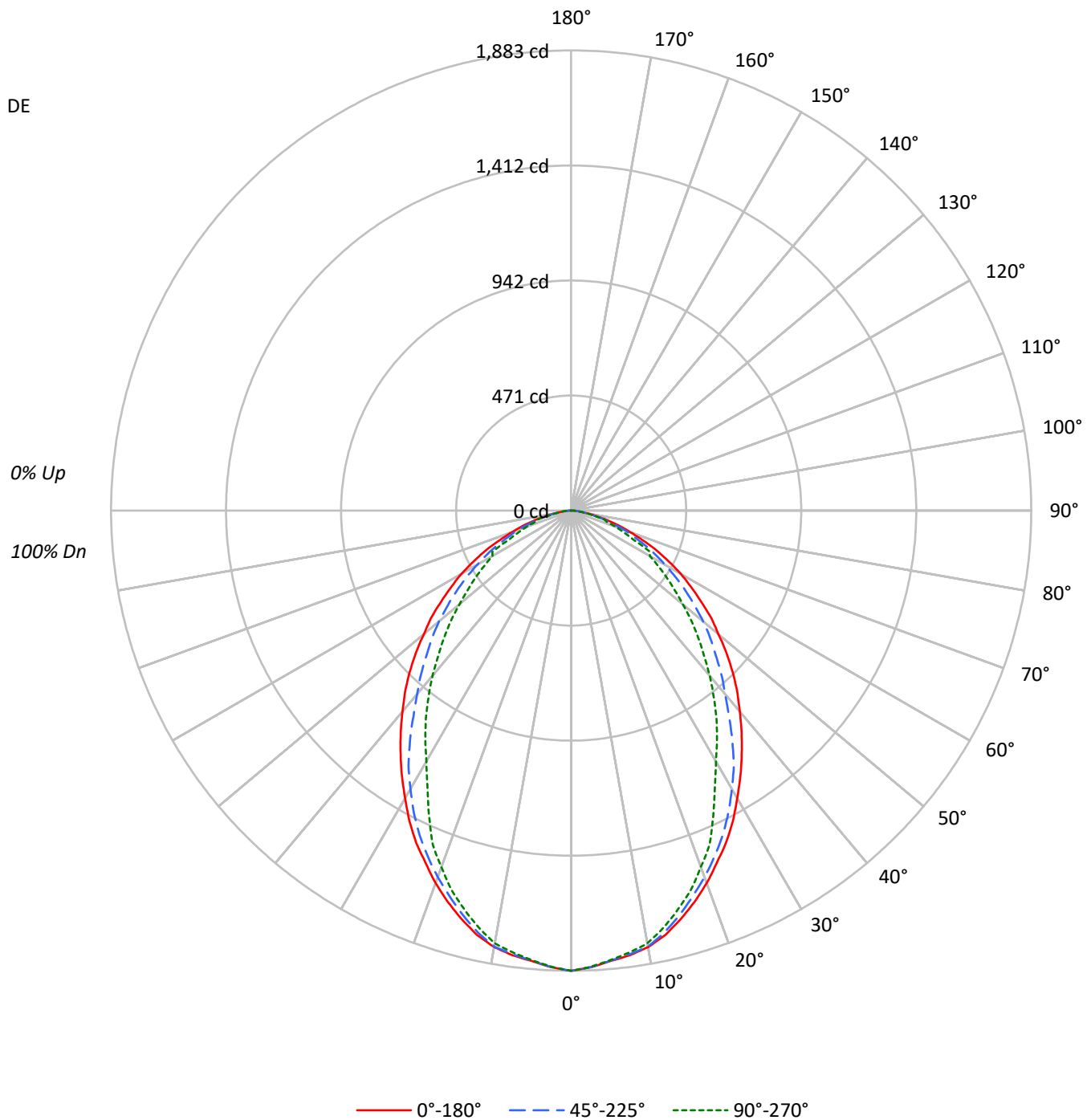
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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											100																	
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87											87																	
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75											75																	
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65											65																	
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56											56																	
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50											50																	
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44											44																	
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40											40																	
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36											36																	
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33											33																	
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30											30																	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5068	5068	5068
5°	4999	4993	4987
10°	4955	4950	4914
15°	4822	4773	4707
20°	4645	4570	4445
25°	4454	4357	4085
30°	4221	4086	3680
35°	3998	3776	3404
40°	3770	3442	3097
45°	3554	3181	2801
50°	3290	2953	2497
55°	3044	2676	2237
60°	2789	2390	2004
65°	2453	2093	1775
70°	2021	1833	1507
75°	1607	1404	1471
80°	1080	1012	945
85°	673	806	942

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3554 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.3	4.7
10°-20°	481.1	13.0
20°-30°	666.0	18.0
30°-40°	710.2	19.2
40°-50°	647.9	17.5
50°-60°	507.6	13.7
60°-70°	330.8	8.9
70°-80°	146.6	4.0
80°-90°	31.5	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°	1322.4	35.8
0°-40°	2032.7	55.0
0°-60°	3188.1	86.2
0°-90°	3697.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3697.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1883	1883	1883	1883	1883	
5°	1850	1848	1848	1846	1846	176
15°	1731	1731	1713	1696	1689	487
25°	1500	1491	1467	1415	1376	689
35°	1217	1208	1150	1062	1036	761
45°	934	914	836	766	736	719
55°	649	629	570	503	477	582
65°	385	364	329	335	279	380
75°	155	144	135	128	142	166
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1883.2	1883.2	1883.2	1883.2	1883.2
2.5°	1870.1	1870.1	1870.1	1868.0	1868.0
5°	1850.5	1848.4	1848.4	1846.2	1846.2
7.5°	1835.3	1833.1	1831.0	1828.8	1824.4
10°	1813.5	1813.5	1811.4	1800.5	1798.3
12.5°	1778.7	1776.5	1767.8	1752.6	1748.2
15°	1730.8	1730.8	1713.4	1696.0	1689.4
17.5°	1678.6	1676.4	1654.6	1637.2	1628.5
20°	1621.9	1617.6	1595.8	1567.5	1552.3
22.5°	1558.8	1558.8	1532.7	1495.7	1480.4
25°	1500.0	1491.3	1467.4	1415.1	1375.9
27.5°	1432.5	1419.5	1393.4	1319.3	1273.6
30°	1358.5	1352.0	1315.0	1219.2	1184.3
32.5°	1288.9	1278.0	1238.8	1138.6	1110.3
35°	1217.0	1208.3	1149.5	1062.4	1036.3
37.5°	1145.2	1134.3	1060.3	990.6	957.9
40°	1073.3	1060.3	979.7	916.6	881.7
42.5°	1005.8	988.4	910.0	842.5	803.4
45°	934.0	914.4	836.0	766.3	735.9
47.5°	862.1	844.7	772.9	701.0	666.2
50°	785.9	770.7	705.4	633.5	596.5
52.5°	722.8	698.9	635.7	563.9	533.4
55°	648.8	629.2	570.4	502.9	476.8
57.5°	581.3	561.7	507.3	444.1	422.4
60°	518.2	489.9	444.1	389.7	372.3
62.5°	448.5	426.7	387.5	341.8	363.6
65°	385.3	363.6	328.7	335.3	278.7
67.5°	315.7	304.8	274.3	243.8	235.1
70°	256.9	243.8	233.0	200.3	191.6
72.5°	204.6	191.6	176.3	158.9	152.4
75°	154.6	143.7	135.0	128.4	141.5
77.5°	106.7	102.3	95.8	89.3	87.1
80°	69.7	67.5	65.3	63.1	61.0
82.5°	41.4	41.4	41.4	41.4	41.4
85°	21.8	23.9	26.1	28.3	30.5
87.5°	13.1	13.1	15.2	17.4	19.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)