

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: P560919

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560919
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-LD4-1HI-50-UNV-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3649.0 lumens
Efficiency: N/A
Efficacy: 84.5 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

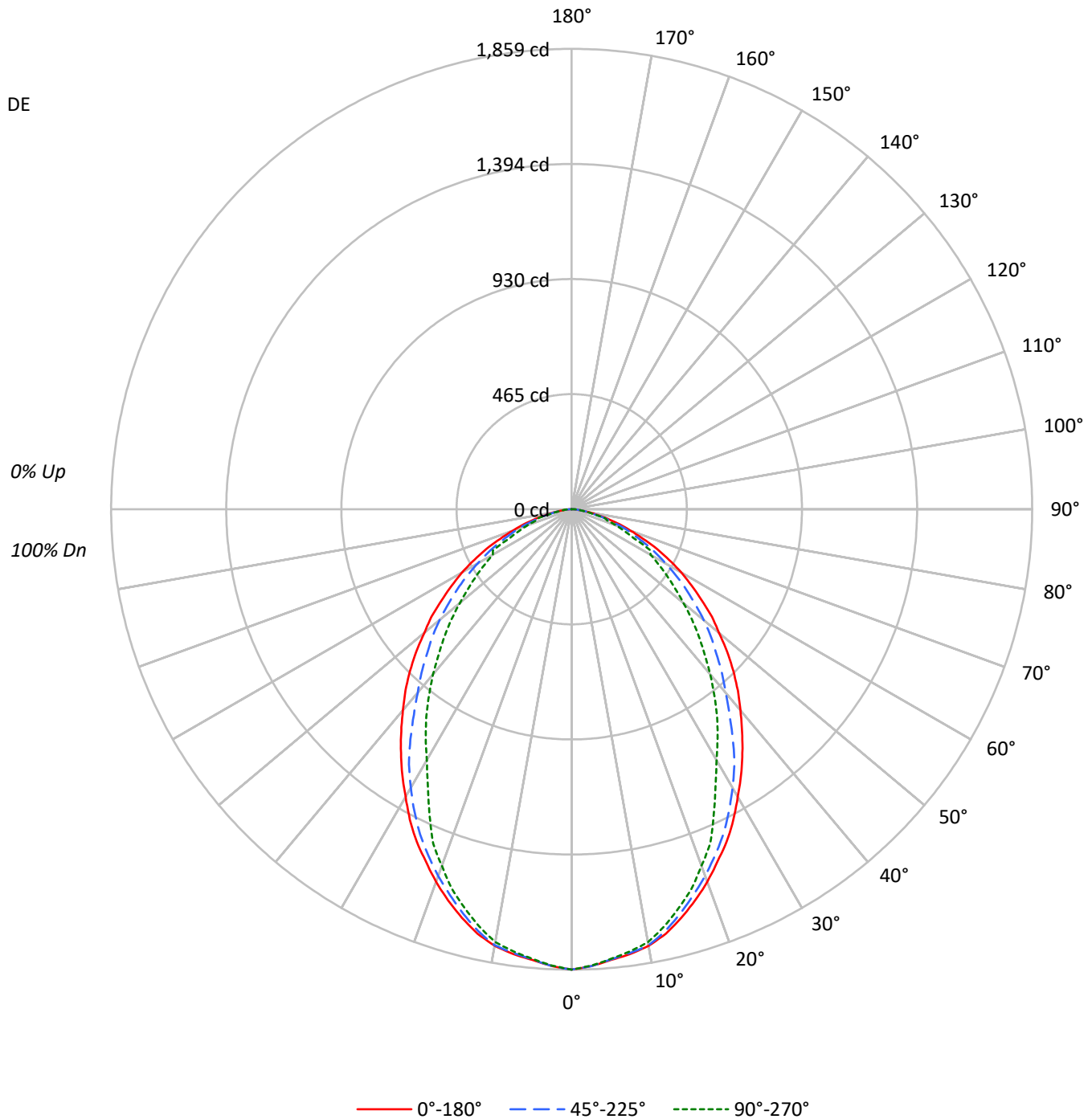
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5002	5002	5002
5°	4934	4928	4922
10°	4891	4885	4850
15°	4759	4711	4645
20°	4584	4511	4387
25°	4396	4300	4032
30°	4167	4033	3632
35°	3946	3727	3360
40°	3721	3397	3057
45°	3508	3140	2764
50°	3247	2915	2465
55°	3004	2641	2208
60°	2752	2359	1978
65°	2422	2066	1752
70°	1995	1809	1488
75°	1587	1385	1452
80°	1066	1000	933
85°	664	797	929

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3508 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.0	4.7
10°-20°	474.9	13.0
20°-30°	657.4	18.0
30°-40°	701.0	19.2
40°-50°	639.5	17.5
50°-60°	501.0	13.7
60°-70°	326.5	8.9
70°-80°	144.7	4.0
80°-90°	31.0	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°	1305.3	35.8
0°-40°	2006.3	55.0
0°-60°	3146.8	86.2
0°-90°	3649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3649.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1859	1859	1859	1859	1859	
5°	1826	1824	1824	1822	1822	173
15°	1708	1708	1691	1674	1668	480
25°	1481	1472	1448	1397	1358	680
35°	1201	1193	1135	1049	1023	751
45°	922	902	825	756	726	710
55°	640	621	563	496	471	574
65°	380	359	324	331	275	375
75°	153	142	133	127	140	164
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°	1858.8	1858.8	1858.8	1858.8	1858.8
2.5°	1845.9	1845.9	1845.9	1843.7	1843.7
5°	1826.5	1824.4	1824.4	1822.2	1822.2
7.5°	1811.5	1809.3	1807.2	1805.0	1800.7
10°	1790.0	1790.0	1787.8	1777.1	1774.9
12.5°	1755.6	1753.5	1744.9	1729.8	1725.5
15°	1708.3	1708.3	1691.1	1674.0	1667.5
17.5°	1656.8	1654.6	1633.1	1615.9	1607.3
20°	1600.9	1596.6	1575.1	1547.2	1532.1
22.5°	1538.6	1538.6	1512.8	1476.3	1461.2
25°	1480.6	1472.0	1448.3	1396.7	1358.1
27.5°	1413.9	1401.0	1375.3	1302.2	1257.1
30°	1340.9	1334.4	1297.9	1203.4	1169.0
32.5°	1272.1	1261.4	1222.7	1123.8	1095.9
35°	1201.2	1192.6	1134.6	1048.6	1022.9
37.5°	1130.3	1119.5	1046.5	977.7	945.5
40°	1059.4	1046.5	967.0	904.7	870.3
42.5°	992.8	975.6	898.2	831.6	792.9
45°	921.9	902.5	825.2	756.4	726.3
47.5°	850.9	833.8	762.8	691.9	657.5
50°	775.7	760.7	696.2	625.3	588.8
52.5°	713.4	689.8	627.5	556.6	526.5
55°	640.4	621.0	563.0	496.4	470.6
57.5°	573.7	554.4	500.7	438.4	416.9
60°	511.4	483.5	438.4	384.6	367.5
62.5°	442.7	421.2	382.5	337.4	358.9
65°	380.3	358.9	324.5	330.9	275.1
67.5°	311.6	300.8	270.8	240.7	232.1
70°	253.6	240.7	229.9	197.7	189.1
72.5°	202.0	189.1	174.1	156.9	150.4
75°	152.6	141.8	133.2	126.8	139.7
77.5°	105.3	101.0	94.5	88.1	86.0
80°	68.8	66.6	64.5	62.3	60.2
82.5°	40.8	40.8	40.8	40.8	40.8
85°	21.5	23.6	25.8	27.9	30.1
87.5°	12.9	12.9	15.0	17.2	19.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)