

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: P560916

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560916
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-82-86-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3281.0 lumens
Efficiency: N/A
Efficacy: 75.9 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

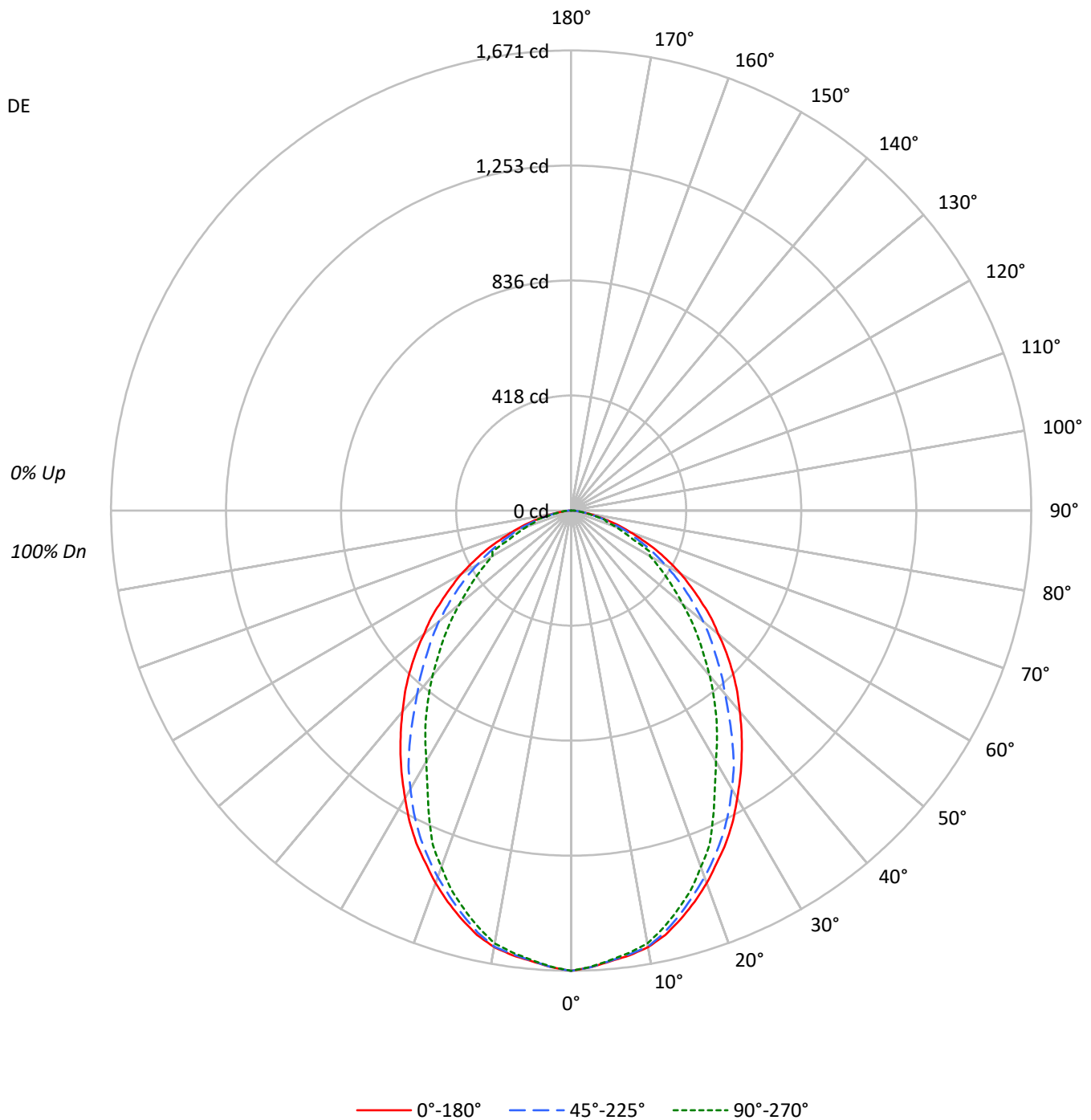
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4497	4497	4497
5°	4436	4431	4426
10°	4398	4392	4361
15°	4279	4236	4177
20°	4122	4056	3945
25°	3953	3867	3626
30°	3746	3626	3266
35°	3548	3351	3021
40°	3346	3054	2749
45°	3154	2823	2485
50°	2920	2621	2216
55°	2701	2375	1985
60°	2475	2122	1778
65°	2178	1858	1575
70°	1794	1626	1338
75°	1426	1246	1306
80°	958	899	838
85°	596	716	834

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3154 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.6	4.7
10°-20°	427.0	13.0
20°-30°	591.1	18.0
30°-40°	630.3	19.2
40°-50°	575.0	17.5
50°-60°	450.5	13.7
60°-70°	293.6	8.9
70°-80°	130.1	4.0
80°-90°	27.9	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°	1173.6	35.8
0°-40°	1803.9	55.0
0°-60°	2829.4	86.2
0°-90°	3281.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3281.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1671	1671	1671	1671	1671	
5°	1642	1640	1640	1638	1638	156
15°	1536	1536	1521	1505	1499	432
25°	1331	1324	1302	1256	1221	611
35°	1080	1072	1020	943	920	675
45°	829	812	742	680	653	638
55°	576	558	506	446	423	516
65°	342	323	292	298	247	337
75°	137	128	120	114	126	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1671.3	1671.3	1671.3	1671.3	1671.3
2.5°	1659.7	1659.7	1659.7	1657.8	1657.8
5°	1642.3	1640.4	1640.4	1638.5	1638.5
7.5°	1628.8	1626.9	1624.9	1623.0	1619.1
10°	1609.5	1609.5	1607.5	1597.9	1595.9
12.5°	1578.6	1576.6	1568.9	1555.4	1551.5
15°	1536.0	1536.0	1520.6	1505.1	1499.3
17.5°	1489.7	1487.7	1468.4	1453.0	1445.2
20°	1439.4	1435.6	1416.3	1391.1	1377.6
22.5°	1383.4	1383.4	1360.2	1327.4	1313.9
25°	1331.2	1323.5	1302.3	1255.9	1221.1
27.5°	1271.3	1259.8	1236.6	1170.9	1130.3
30°	1205.7	1199.9	1167.0	1082.0	1051.1
32.5°	1143.8	1134.2	1099.4	1010.5	985.4
35°	1080.1	1072.3	1020.2	942.9	919.7
37.5°	1016.3	1006.6	941.0	879.1	850.1
40°	952.5	941.0	869.5	813.4	782.5
42.5°	892.6	877.2	807.6	747.7	713.0
45°	828.9	811.5	741.9	680.1	653.1
47.5°	765.1	749.7	685.9	622.1	591.2
50°	697.5	684.0	626.0	562.3	529.4
52.5°	641.5	620.2	564.2	500.4	473.4
55°	575.8	558.4	506.2	446.3	423.1
57.5°	515.9	498.5	450.2	394.2	374.8
60°	459.8	434.7	394.2	345.9	330.4
62.5°	398.0	378.7	343.9	303.3	322.7
65°	342.0	322.7	291.8	297.5	247.3
67.5°	280.2	270.5	243.4	216.4	208.7
70°	228.0	216.4	206.7	177.8	170.0
72.5°	181.6	170.0	156.5	141.0	135.2
75°	137.2	127.5	119.8	114.0	125.6
77.5°	94.7	90.8	85.0	79.2	77.3
80°	61.8	59.9	58.0	56.0	54.1
82.5°	36.7	36.7	36.7	36.7	36.7
85°	19.3	21.3	23.2	25.1	27.0
87.5°	11.6	11.6	13.5	15.5	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)