

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: P560820

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560820
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-40-UNV-80-86-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3350.0 lumens
Efficiency: N/A
Efficacy: 77.5 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

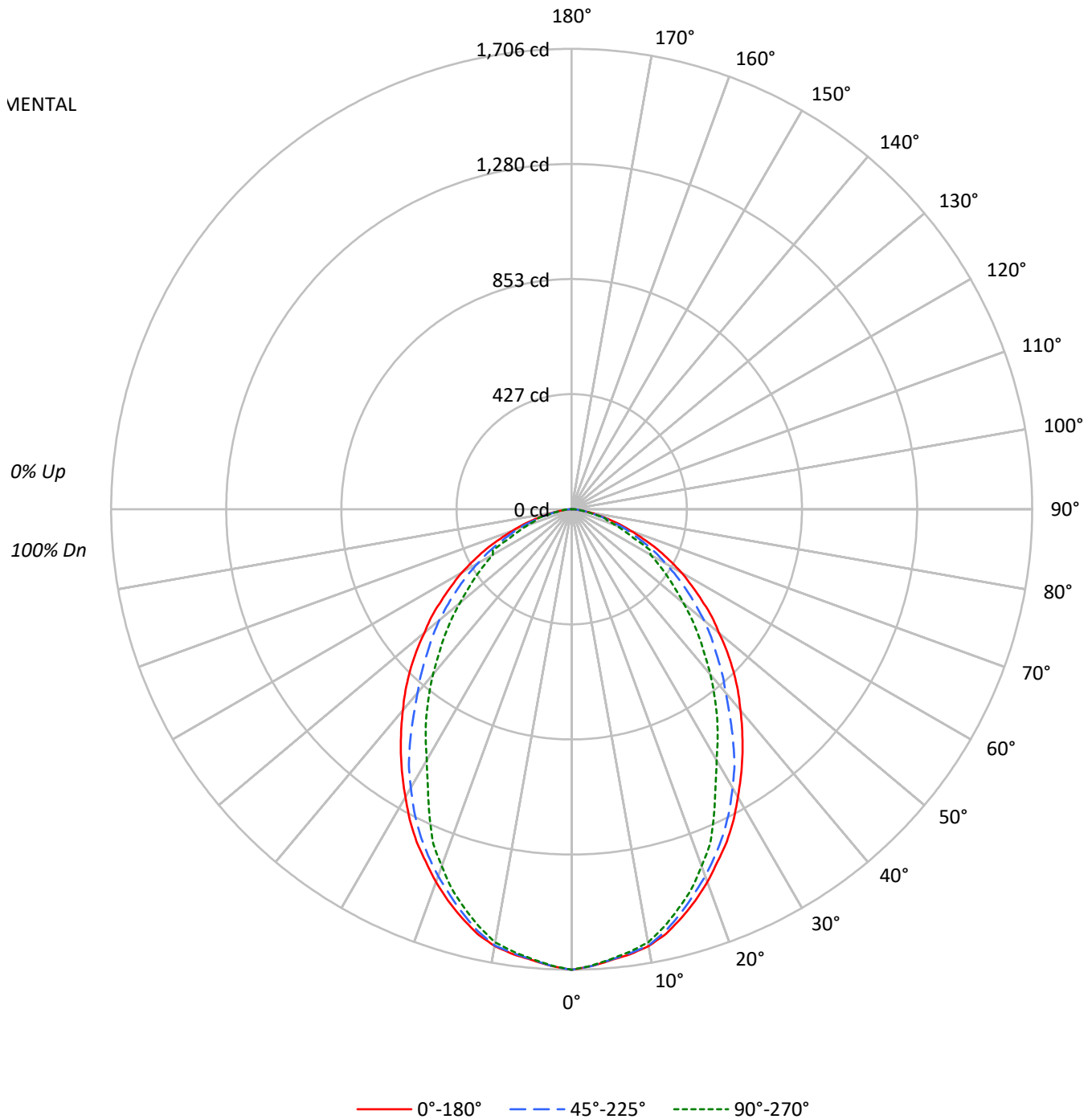
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4592	4592	4592
5°	4530	4524	4519
10°	4490	4485	4453
15°	4369	4325	4265
20°	4209	4141	4028
25°	4036	3948	3702
30°	3825	3703	3335
35°	3623	3422	3085
40°	3417	3118	2807
45°	3221	2883	2538
50°	2982	2676	2263
55°	2758	2425	2027
60°	2527	2166	1815
65°	2223	1897	1608
70°	1832	1661	1366
75°	1457	1272	1333
80°	978	917	855
85°	608	732	852

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3221 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.8	4.7
10°-20°	435.9	13.0
20°-30°	603.5	18.0
30°-40°	643.5	19.2
40°-50°	587.1	17.5
50°-60°	459.9	13.7
60°-70°	299.8	8.9
70°-80°	132.8	4.0
80°-90°	28.5	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°	1198.3	35.8
0°-40°	1841.9	55.0
0°-60°	2888.9	86.2
0°-90°	3350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3350.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1706	1706	1706	1706	1706	
5°	1677	1675	1675	1673	1673	159
15°	1568	1568	1553	1537	1531	441
25°	1359	1351	1330	1282	1247	624
35°	1103	1095	1042	963	939	689
45°	846	829	758	694	667	652
55°	588	570	517	456	432	527
65°	349	330	298	304	252	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1706.4	1706.4	1706.4	1706.4	1706.4
2.5°	1694.6	1694.6	1694.6	1692.6	1692.6
5°	1676.9	1674.9	1674.9	1672.9	1672.9
7.5°	1663.0	1661.1	1659.1	1657.1	1653.2
10°	1643.3	1643.3	1641.3	1631.5	1629.5
12.5°	1611.8	1609.8	1601.9	1588.1	1584.1
15°	1568.4	1568.4	1552.6	1536.8	1530.9
17.5°	1521.0	1519.0	1499.3	1483.5	1475.6
20°	1469.7	1465.8	1446.0	1420.4	1406.6
22.5°	1412.5	1412.5	1388.8	1355.3	1341.5
25°	1359.2	1351.3	1329.6	1282.3	1246.8
27.5°	1298.1	1286.2	1262.6	1195.5	1154.1
30°	1231.0	1225.1	1191.6	1104.8	1073.2
32.5°	1167.9	1158.0	1122.5	1031.8	1006.1
35°	1102.8	1094.9	1041.6	962.7	939.0
37.5°	1037.7	1027.8	960.7	897.6	868.0
40°	972.6	960.7	887.7	830.5	799.0
42.5°	911.4	895.6	824.6	763.5	728.0
45°	846.3	828.6	757.5	694.4	666.8
47.5°	781.2	765.4	700.3	635.2	603.7
50°	712.2	698.4	639.2	574.1	540.5
52.5°	655.0	633.3	576.0	510.9	483.3
55°	587.9	570.1	516.9	455.7	432.0
57.5°	526.7	509.0	459.7	402.4	382.7
60°	469.5	443.9	402.4	353.1	337.3
62.5°	406.4	386.7	351.2	309.7	329.5
65°	349.2	329.5	297.9	303.8	252.5
67.5°	286.1	276.2	248.6	221.0	213.1
70°	232.8	221.0	211.1	181.5	173.6
72.5°	185.4	173.6	159.8	144.0	138.1
75°	140.1	130.2	122.3	116.4	128.2
77.5°	96.7	92.7	86.8	80.9	78.9
80°	63.1	61.2	59.2	57.2	55.2
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.7	21.7	23.7	25.6	27.6
87.5°	11.8	11.8	13.8	15.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)