

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: P560822

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560822
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-80-87-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3242.0 lumens
Efficiency: N/A
Efficacy: 75.0 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

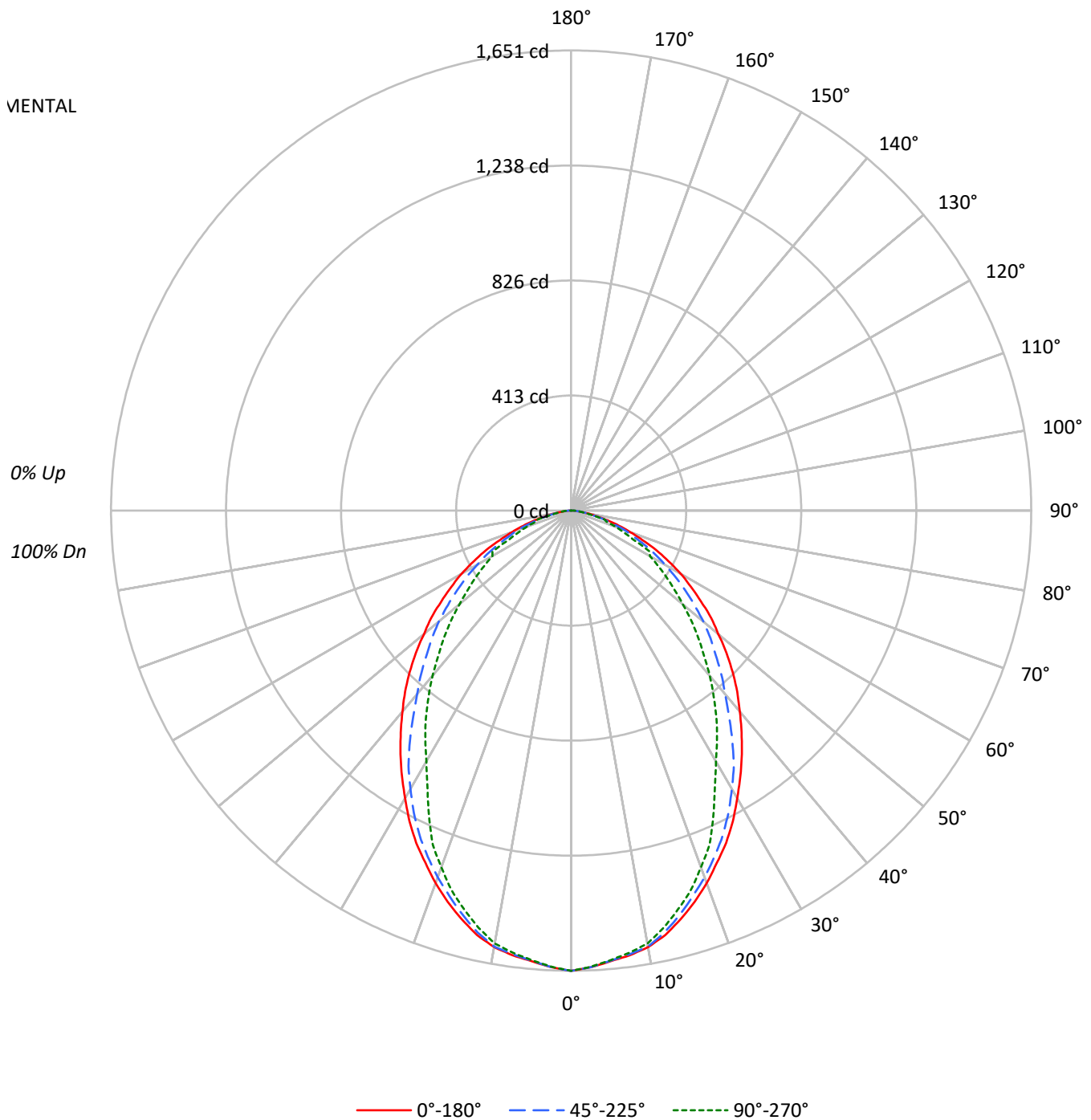
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4444	4444	4444
5°	4384	4378	4373
10°	4345	4340	4309
15°	4228	4186	4127
20°	4073	4007	3898
25°	3906	3821	3583
30°	3702	3583	3227
35°	3506	3311	2985
40°	3306	3018	2716
45°	3117	2790	2456
50°	2885	2590	2190
55°	2669	2347	1962
60°	2446	2096	1757
65°	2152	1836	1556
70°	1773	1607	1322
75°	1410	1231	1290
80°	947	888	829
85°	590	707	824

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3117 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.7	4.7
10°-20°	421.9	13.0
20°-30°	584.1	18.0
30°-40°	622.8	19.2
40°-50°	568.2	17.5
50°-60°	445.1	13.7
60°-70°	290.1	8.9
70°-80°	128.5	4.0
80°-90°	27.6	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°	1159.7	35.8
0°-40°	1782.5	55.0
0°-60°	2795.8	86.2
0°-90°	3242.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3242.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1651	1651	1651	1651	1651	
5°	1623	1621	1621	1619	1619	154
15°	1518	1518	1502	1487	1482	427
25°	1315	1308	1287	1241	1207	604
35°	1067	1060	1008	932	909	667
45°	819	802	733	672	645	631
55°	569	552	500	441	418	510
65°	338	319	288	294	244	333
75°	136	126	118	113	124	145
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°	1651.4	1651.4	1651.4	1651.4	1651.4
2.5°	1640.0	1640.0	1640.0	1638.1	1638.1
5°	1622.8	1620.9	1620.9	1619.0	1619.0
7.5°	1609.4	1607.5	1605.6	1603.7	1599.9
10°	1590.3	1590.3	1588.4	1578.9	1577.0
12.5°	1559.8	1557.9	1550.2	1536.9	1533.1
15°	1517.8	1517.8	1502.5	1487.2	1481.5
17.5°	1472.0	1470.1	1451.0	1435.7	1428.1
20°	1422.3	1418.5	1399.4	1374.6	1361.2
22.5°	1367.0	1367.0	1344.1	1311.6	1298.2
25°	1315.4	1307.8	1286.8	1241.0	1206.6
27.5°	1256.2	1244.8	1221.9	1157.0	1116.9
30°	1191.3	1185.6	1153.1	1069.1	1038.6
32.5°	1130.2	1120.7	1086.3	998.5	973.7
35°	1067.2	1059.6	1008.0	931.7	908.8
37.5°	1004.2	994.7	929.8	868.7	840.0
40°	941.2	929.8	859.1	803.8	773.2
42.5°	882.0	866.8	798.0	738.8	704.5
45°	819.0	801.9	733.1	672.0	645.3
47.5°	756.0	740.8	677.8	614.8	584.2
50°	689.2	675.8	618.6	555.6	523.1
52.5°	633.8	612.8	557.5	494.5	467.7
55°	568.9	551.7	500.2	441.0	418.1
57.5°	509.7	492.6	444.8	389.5	370.4
60°	454.4	429.6	389.5	341.7	326.5
62.5°	393.3	374.2	339.8	299.7	318.8
65°	337.9	318.8	288.3	294.0	244.4
67.5°	276.8	267.3	240.6	213.8	206.2
70°	225.3	213.8	204.3	175.6	168.0
72.5°	179.5	168.0	154.6	139.4	133.6
75°	135.6	126.0	118.4	112.6	124.1
77.5°	93.5	89.7	84.0	78.3	76.4
80°	61.1	59.2	57.3	55.4	53.5
82.5°	36.3	36.3	36.3	36.3	36.3
85°	19.1	21.0	22.9	24.8	26.7
87.5°	11.5	11.5	13.4	15.3	17.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)