

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: P560768

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560768
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-35-UNV-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3238.0 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

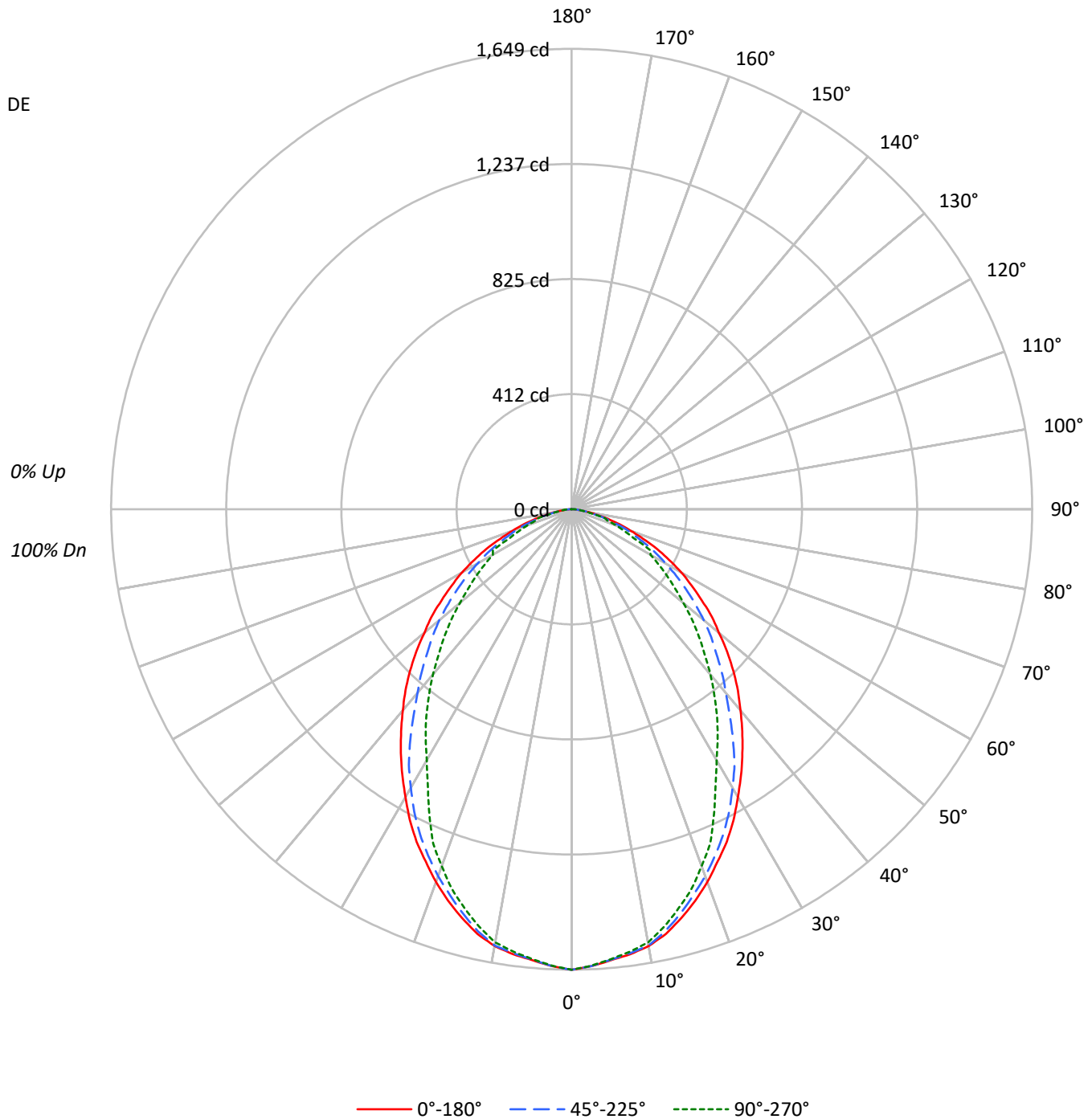
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4439	4439	4439
5°	4378	4373	4368
10°	4340	4335	4304
15°	4223	4181	4122
20°	4068	4003	3893
25°	3901	3816	3578
30°	3697	3579	3223
35°	3502	3307	2982
40°	3302	3014	2713
45°	3113	2786	2453
50°	2882	2586	2187
55°	2666	2344	1959
60°	2442	2094	1755
65°	2149	1833	1554
70°	1770	1605	1320
75°	1408	1229	1288
80°	945	886	828
85°	590	707	824

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3113 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.5	4.7
10°-20°	421.4	13.0
20°-30°	583.4	18.0
30°-40°	622.0	19.2
40°-50°	567.5	17.5
50°-60°	444.6	13.7
60°-70°	289.7	8.9
70°-80°	128.4	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°	1158.3	35.8
0°-40°	1780.3	55.0
0°-60°	2792.3	86.2
0°-90°	3238.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3238.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1649	1649	1649	1649	1649	
5°	1621	1619	1619	1617	1617	154
15°	1516	1516	1501	1485	1480	426
25°	1314	1306	1285	1239	1205	603
35°	1066	1058	1007	930	908	666
45°	818	801	732	671	644	630
55°	568	551	500	440	418	510
65°	338	318	288	294	244	333
75°	135	126	118	112	124	145
85°	19	21	23	25	27	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1649.4	1649.4	1649.4	1649.4	1649.4
2.5°	1638.0	1638.0	1638.0	1636.0	1636.0
5°	1620.8	1618.9	1618.9	1617.0	1617.0
7.5°	1607.4	1605.5	1603.6	1601.7	1597.9
10°	1588.4	1588.4	1586.5	1576.9	1575.0
12.5°	1557.9	1556.0	1548.3	1535.0	1531.2
15°	1515.9	1515.9	1500.7	1485.4	1479.7
17.5°	1470.2	1468.2	1449.2	1433.9	1426.3
20°	1420.6	1416.8	1397.7	1372.9	1359.6
22.5°	1365.3	1365.3	1342.4	1310.0	1296.6
25°	1313.8	1306.2	1285.2	1239.4	1205.1
27.5°	1254.7	1243.2	1220.4	1155.5	1115.5
30°	1189.9	1184.1	1151.7	1067.8	1037.3
32.5°	1128.8	1119.3	1085.0	997.3	972.5
35°	1065.9	1058.3	1006.8	930.5	907.6
37.5°	1003.0	993.4	928.6	867.6	839.0
40°	940.1	928.6	858.1	802.8	772.3
42.5°	880.9	865.7	797.0	737.9	703.6
45°	818.0	800.9	732.2	671.2	644.5
47.5°	755.1	739.8	676.9	614.0	583.5
50°	688.4	675.0	617.8	554.9	522.5
52.5°	633.1	612.1	556.8	493.9	467.2
55°	568.2	551.1	499.6	440.5	417.6
57.5°	509.1	492.0	444.3	389.0	369.9
60°	453.8	429.0	389.0	341.3	326.1
62.5°	392.8	373.7	339.4	299.4	318.4
65°	337.5	318.4	287.9	293.6	244.1
67.5°	276.5	267.0	240.3	213.6	205.9
70°	225.0	213.6	204.0	175.4	167.8
72.5°	179.2	167.8	154.5	139.2	133.5
75°	135.4	125.8	118.2	112.5	123.9
77.5°	93.4	89.6	83.9	78.2	76.3
80°	61.0	59.1	57.2	55.3	53.4
82.5°	36.2	36.2	36.2	36.2	36.2
85°	19.1	21.0	22.9	24.8	26.7
87.5°	11.4	11.4	13.3	15.3	17.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)