

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: P561744

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561744
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-LD4-2STD-35-UNV-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 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: 5169.0 lumens
Efficiency: N/A
Efficacy: 77.6 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

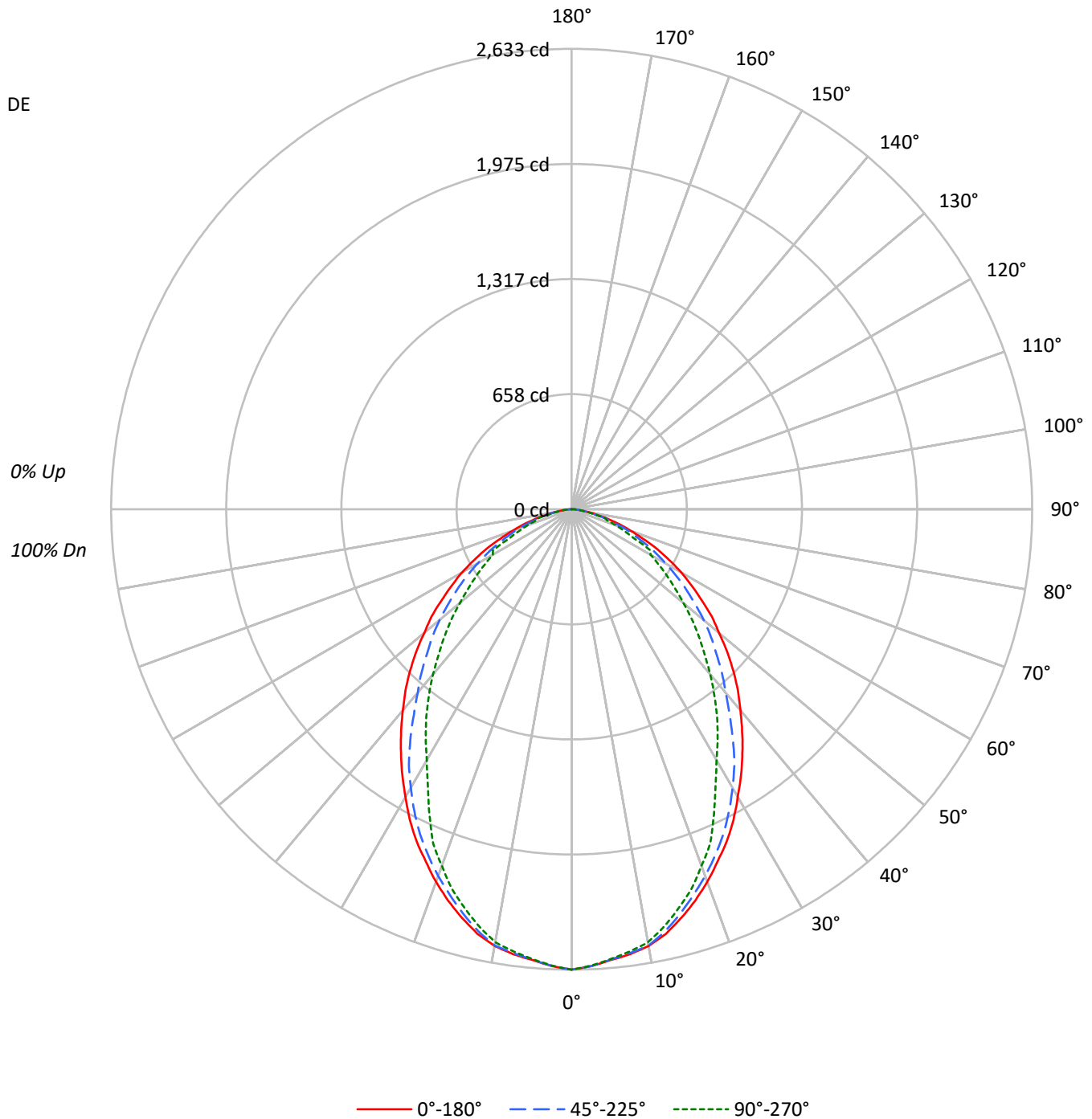
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7085	7085	7085
5°	6989	6981	6973
10°	6929	6920	6870
15°	6742	6674	6581
20°	6494	6389	6215
25°	6227	6092	5712
30°	5902	5713	5145
35°	5590	5280	4760
40°	5272	4812	4331
45°	4970	4448	3916
50°	4600	4129	3491
55°	4256	3742	3127
60°	3899	3342	2801
65°	3431	2926	2481
70°	2826	2563	2108
75°	2247	1962	2058
80°	1509	1415	1320
85°	939	1127	1315

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4970 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.1	4.7
10°-20°	672.7	13.0
20°-30°	931.2	18.0
30°-40°	993.0	19.2
40°-50°	905.9	17.5
50°-60°	709.7	13.7
60°-70°	462.5	8.9
70°-80°	204.9	4.0
80°-90°	44.0	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°	1849.0	35.8
0°-40°	2842.0	55.0
0°-60°	4457.5	86.2
0°-90°	5169.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5169.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2633	2633	2633	2633	2633	
5°	2587	2584	2584	2581	2581	246
15°	2420	2420	2396	2371	2362	680
25°	2097	2085	2052	1979	1924	963
35°	1702	1689	1607	1485	1449	1064
45°	1306	1278	1169	1072	1029	1006
55°	907	880	798	703	667	814
65°	539	508	460	469	390	531
75°	216	201	189	180	198	232
85°	30	34	36	40	43	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2633.0	2633.0	2633.0	2633.0	2633.0
2.5°	2614.8	2614.8	2614.8	2611.7	2611.7
5°	2587.4	2584.3	2584.3	2581.3	2581.3
7.5°	2566.1	2563.0	2560.0	2556.9	2550.8
10°	2535.6	2535.6	2532.6	2517.3	2514.3
12.5°	2486.9	2483.9	2471.7	2450.4	2444.3
15°	2419.9	2419.9	2395.6	2371.2	2362.1
17.5°	2346.9	2343.8	2313.4	2289.1	2276.9
20°	2267.7	2261.7	2231.2	2191.6	2170.3
22.5°	2179.5	2179.5	2142.9	2091.2	2069.9
25°	2097.3	2085.1	2051.6	1978.6	1923.8
27.5°	2002.9	1984.7	1948.1	1844.6	1780.7
30°	1899.4	1890.3	1838.5	1704.6	1655.9
32.5°	1802.0	1786.8	1732.0	1592.0	1552.4
35°	1701.6	1689.4	1607.2	1485.4	1448.9
37.5°	1601.1	1585.9	1482.4	1385.0	1339.3
40°	1500.7	1482.4	1369.8	1281.5	1232.8
42.5°	1406.3	1382.0	1272.4	1178.0	1123.2
45°	1305.9	1278.5	1168.9	1071.5	1028.9
47.5°	1205.4	1181.1	1080.6	980.2	931.4
50°	1098.9	1077.6	986.2	885.8	834.0
52.5°	1010.6	977.1	888.8	788.4	745.8
55°	907.1	879.7	797.5	703.2	666.6
57.5°	812.7	785.3	709.2	621.0	590.5
60°	724.5	684.9	621.0	544.9	520.5
62.5°	627.1	596.6	541.8	477.9	508.3
65°	538.8	508.3	459.6	468.8	389.6
67.5°	441.4	426.2	383.5	340.9	328.7
70°	359.2	340.9	325.7	280.0	267.9
72.5°	286.1	267.9	246.6	222.2	213.1
75°	216.1	200.9	188.7	179.6	197.9
77.5°	149.2	143.1	133.9	124.8	121.8
80°	97.4	94.4	91.3	88.3	85.2
82.5°	57.8	57.8	57.8	57.8	57.8
85°	30.4	33.5	36.5	39.6	42.6
87.5°	18.3	18.3	21.3	24.4	27.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)