

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: P561152

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561152
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-LD4-1STD-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: 2640.0 lumens
Efficiency: N/A
Efficacy: 79.3 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

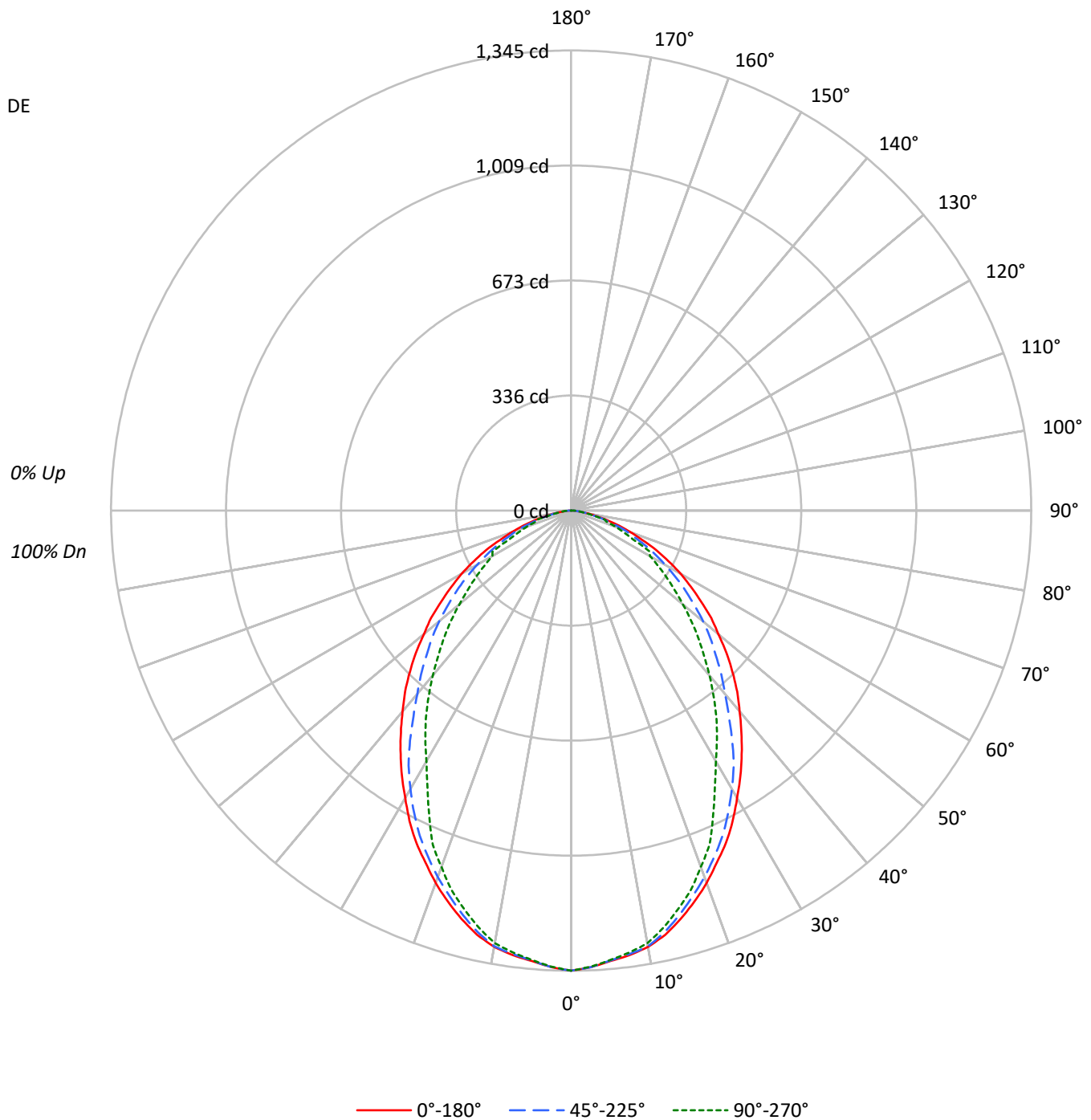
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3619	3619	3619
5°	3570	3565	3561
10°	3539	3534	3509
15°	3443	3409	3361
20°	3317	3263	3174
25°	3181	3111	2917
30°	3014	2918	2628
35°	2855	2697	2431
40°	2692	2458	2212
45°	2538	2272	2000
50°	2349	2109	1783
55°	2174	1911	1597
60°	1991	1707	1431
65°	1752	1495	1267
70°	1443	1308	1076
75°	1148	1002	1051
80°	770	722	674
85°	479	577	673

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2538 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.2	4.7
10°-20°	343.5	13.0
20°-30°	475.6	18.0
30°-40°	507.2	19.2
40°-50°	462.7	17.5
50°-60°	362.5	13.7
60°-70°	236.2	8.9
70°-80°	104.7	4.0
80°-90°	22.5	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°	944.3	35.8
0°-40°	1451.5	55.0
0°-60°	2276.6	86.2
0°-90°	2640.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2640.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1345	1345	1345	1345	1345	
5°	1322	1320	1320	1318	1318	125
15°	1236	1236	1224	1211	1206	347
25°	1071	1065	1048	1010	982	492
35°	869	863	821	759	740	543
45°	667	653	597	547	526	514
55°	463	449	407	359	340	416
65°	275	260	235	239	199	271
75°	110	103	96	92	101	118
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1344.8	1344.8	1344.8	1344.8	1344.8
2.5°	1335.5	1335.5	1335.5	1333.9	1333.9
5°	1321.5	1319.9	1319.9	1318.4	1318.4
7.5°	1310.6	1309.0	1307.5	1305.9	1302.8
10°	1295.0	1295.0	1293.5	1285.7	1284.1
12.5°	1270.2	1268.6	1262.4	1251.5	1248.4
15°	1236.0	1236.0	1223.5	1211.1	1206.4
17.5°	1198.6	1197.1	1181.5	1169.1	1162.9
20°	1158.2	1155.1	1139.6	1119.4	1108.5
22.5°	1113.1	1113.1	1094.5	1068.1	1057.2
25°	1071.2	1064.9	1047.8	1010.5	982.5
27.5°	1023.0	1013.6	995.0	942.1	909.5
30°	970.1	965.4	939.0	870.6	845.7
32.5°	920.4	912.6	884.6	813.1	792.9
35°	869.1	862.8	820.9	758.7	740.0
37.5°	817.8	810.0	757.1	707.4	684.1
40°	766.4	757.1	699.6	654.5	629.6
42.5°	718.3	705.8	649.8	601.7	573.7
45°	666.9	653.0	597.0	547.2	525.5
47.5°	615.6	603.2	551.9	500.6	475.7
50°	561.2	550.3	503.7	452.4	426.0
52.5°	516.1	499.0	454.0	402.7	380.9
55°	463.3	449.3	407.3	359.1	340.5
57.5°	415.1	401.1	362.2	317.2	301.6
60°	370.0	349.8	317.2	278.3	265.8
62.5°	320.3	304.7	276.7	244.1	259.6
65°	275.2	259.6	234.8	239.4	199.0
67.5°	225.4	217.7	195.9	174.1	167.9
70°	183.4	174.1	166.3	143.0	136.8
72.5°	146.1	136.8	125.9	113.5	108.8
75°	110.4	102.6	96.4	91.7	101.1
77.5°	76.2	73.1	68.4	63.7	62.2
80°	49.7	48.2	46.6	45.1	43.5
82.5°	29.5	29.5	29.5	29.5	29.5
85°	15.5	17.1	18.7	20.2	21.8
87.5°	9.3	9.3	10.9	12.4	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)