

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: P561810

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561810
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-40-UNV-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5139.0 lumens
Efficiency: N/A
Efficacy: 77.2 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

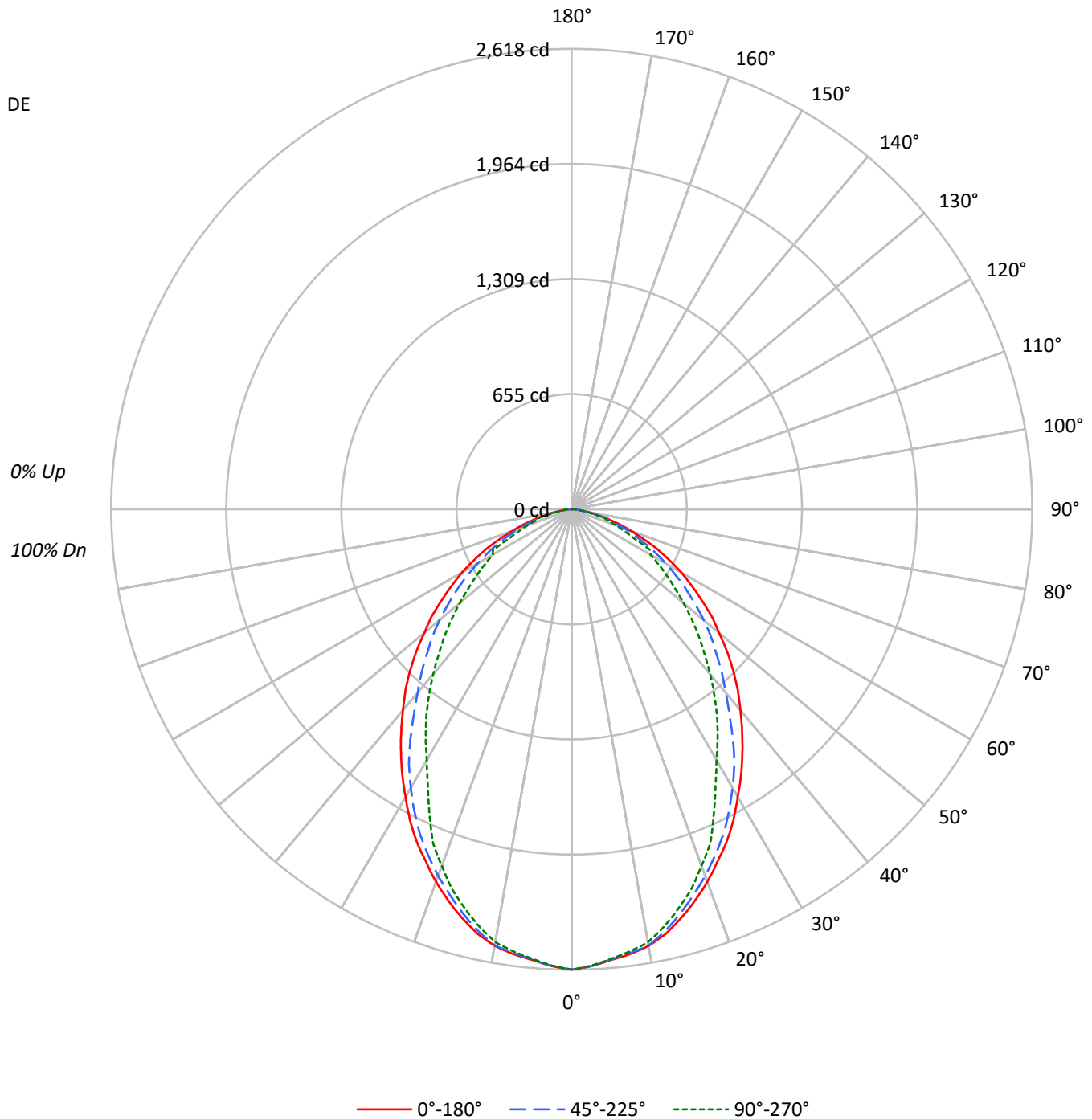
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7044	7044	7044
5°	6948	6940	6932
10°	6888	6880	6830
15°	6703	6635	6542
20°	6456	6353	6179
25°	6191	6056	5679
30°	5868	5680	5116
35°	5557	5249	4732
40°	5241	4784	4305
45°	4941	4423	3893
50°	4574	4105	3471
55°	4231	3720	3110
60°	3877	3323	2785
65°	3411	2910	2467
70°	2810	2548	2095
75°	2234	1951	2045
80°	1500	1407	1313
85°	936	1121	1309

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4941 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	243.7	4.7
10°-20°	668.7	13.0
20°-30°	925.8	18.0
30°-40°	987.2	19.2
40°-50°	900.6	17.5
50°-60°	705.6	13.7
60°-70°	459.9	8.9
70°-80°	203.7	4.0
80°-90°	43.7	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°	1838.3	35.8
0°-40°	2825.5	55.0
0°-60°	4431.7	86.2
0°-90°	5139.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5139.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2618	2618	2618	2618	2618	
5°	2572	2569	2569	2566	2566	244
15°	2406	2406	2382	2358	2348	676
25°	2085	2073	2040	1967	1913	957
35°	1692	1680	1598	1477	1440	1058
45°	1298	1271	1162	1065	1023	1000
55°	902	875	793	699	663	809
65°	536	505	457	466	387	528
75°	215	200	188	179	197	230
85°	30	33	36	39	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2617.7	2617.7	2617.7	2617.7	2617.7
2.5°	2599.6	2599.6	2599.6	2596.6	2596.6
5°	2572.3	2569.3	2569.3	2566.3	2566.3
7.5°	2551.2	2548.1	2545.1	2542.1	2536.0
10°	2520.9	2520.9	2517.9	2502.7	2499.7
12.5°	2472.5	2469.4	2457.3	2436.2	2430.1
15°	2405.9	2405.9	2381.7	2357.5	2348.4
17.5°	2333.3	2330.2	2300.0	2275.8	2263.7
20°	2254.6	2248.5	2218.3	2178.9	2157.7
22.5°	2166.8	2166.8	2130.5	2079.1	2057.9
25°	2085.1	2073.0	2039.7	1967.1	1912.6
27.5°	1991.3	1973.1	1936.8	1833.9	1770.4
30°	1888.4	1879.3	1827.9	1694.7	1646.3
32.5°	1791.6	1776.4	1722.0	1582.7	1543.4
35°	1691.7	1679.6	1597.9	1476.8	1440.5
37.5°	1591.8	1576.7	1473.8	1377.0	1331.6
40°	1492.0	1473.8	1361.8	1274.1	1225.6
42.5°	1398.1	1373.9	1265.0	1171.2	1116.7
45°	1298.3	1271.0	1162.1	1065.3	1022.9
47.5°	1198.4	1174.2	1074.3	974.5	926.0
50°	1092.5	1071.3	980.5	880.6	829.2
52.5°	1004.7	971.4	883.7	783.8	741.4
55°	901.8	874.6	792.9	699.1	662.8
57.5°	808.0	780.8	705.1	617.4	587.1
60°	720.3	680.9	617.4	541.7	517.5
62.5°	623.4	593.2	538.7	475.1	505.4
65°	535.7	505.4	457.0	466.0	387.4
67.5°	438.8	423.7	381.3	338.9	326.8
70°	357.1	338.9	323.8	278.4	266.3
72.5°	284.5	266.3	245.1	220.9	211.8
75°	214.9	199.7	187.6	178.6	196.7
77.5°	148.3	142.2	133.2	124.1	121.1
80°	96.8	93.8	90.8	87.8	84.7
82.5°	57.5	57.5	57.5	57.5	57.5
85°	30.3	33.3	36.3	39.3	42.4
87.5°	18.2	18.2	21.2	24.2	27.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)