

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: P561792

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561792
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-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5355.0 lumens
Efficiency: N/A
Efficacy: 80.4 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

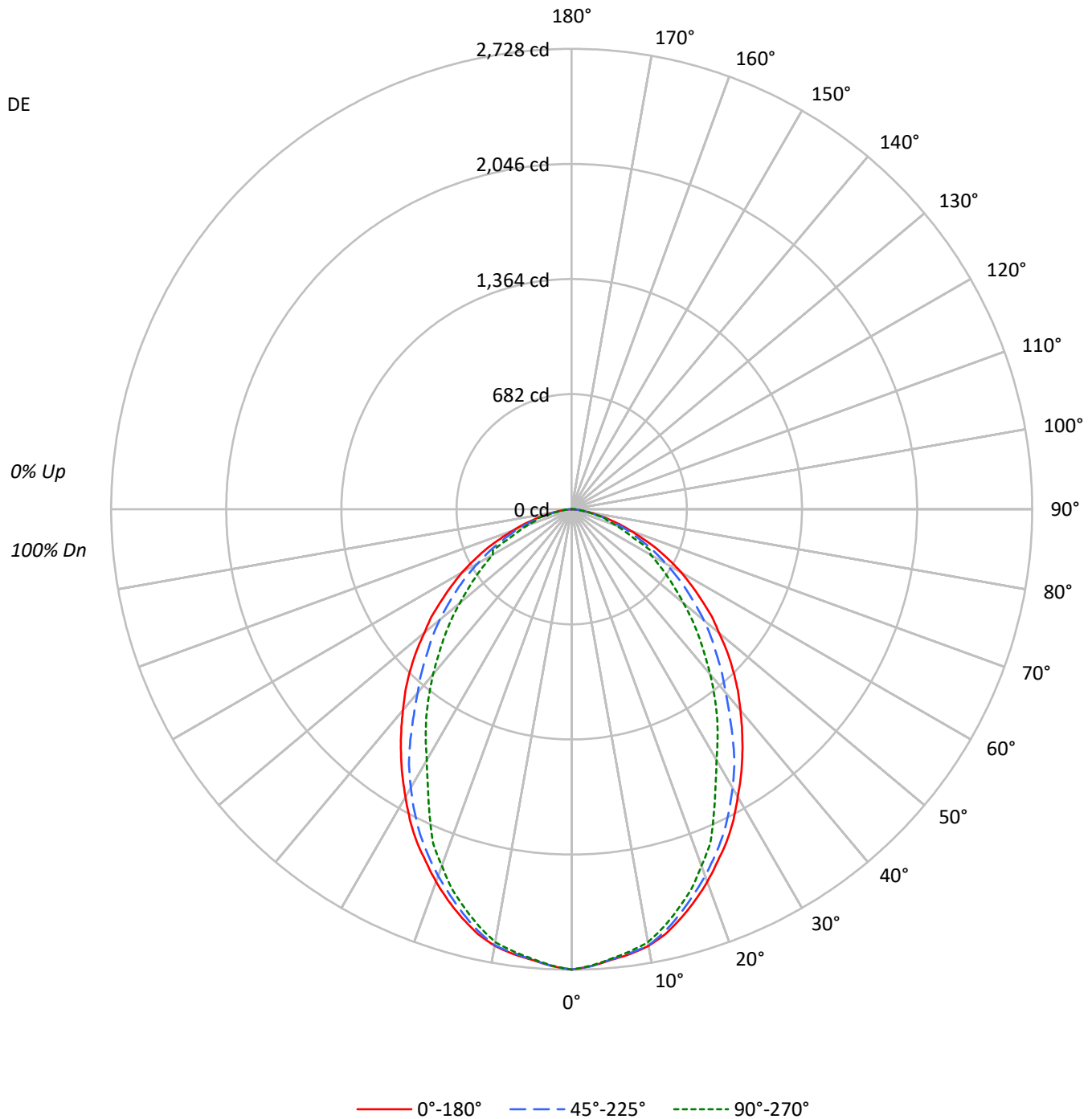
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7340	7340	7340
5°	7241	7232	7224
10°	7178	7169	7118
15°	6984	6914	6817
20°	6728	6619	6439
25°	6451	6311	5918
30°	6114	5918	5331
35°	5791	5470	4931
40°	5461	4985	4487
45°	5148	4608	4056
50°	4766	4277	3617
55°	4409	3876	3240
60°	4039	3462	2902
65°	3554	3032	2570
70°	2928	2655	2183
75°	2328	2033	2131
80°	1564	1466	1368
85°	973	1167	1362

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5148 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.9	4.7
10°-20°	696.9	13.0
20°-30°	964.8	18.0
30°-40°	1028.7	19.2
40°-50°	938.5	17.5
50°-60°	735.2	13.7
60°-70°	479.2	8.9
70°-80°	212.3	4.0
80°-90°	45.6	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°	1915.5	35.8
0°-40°	2944.2	55.0
0°-60°	4617.9	86.2
0°-90°	5355.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5355.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2728	2728	2728	2728	2728	
5°	2680	2677	2677	2674	2674	254
15°	2507	2507	2482	2457	2447	705
25°	2173	2160	2125	2050	1993	998
35°	1763	1750	1665	1539	1501	1102
45°	1353	1324	1211	1110	1066	1042
55°	940	911	826	728	691	843
65°	558	527	476	486	404	550
75°	224	208	196	186	205	240
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2727.8	2727.8	2727.8	2727.8	2727.8
2.5°	2708.8	2708.8	2708.8	2705.7	2705.7
5°	2680.5	2677.3	2677.3	2674.2	2674.2
7.5°	2658.4	2655.2	2652.1	2648.9	2642.6
10°	2626.9	2626.9	2623.7	2607.9	2604.8
12.5°	2576.4	2573.2	2560.6	2538.6	2532.2
15°	2507.0	2507.0	2481.8	2456.6	2447.1
17.5°	2431.3	2428.2	2396.6	2371.4	2358.8
20°	2349.3	2343.0	2311.5	2270.5	2248.4
22.5°	2257.9	2257.9	2220.1	2166.4	2144.4
25°	2172.8	2160.1	2125.4	2049.8	1993.0
27.5°	2075.0	2056.1	2018.2	1911.0	1844.8
30°	1967.8	1958.3	1904.7	1766.0	1715.5
32.5°	1866.9	1851.1	1794.3	1649.3	1608.3
35°	1762.8	1750.2	1665.0	1538.9	1501.1
37.5°	1658.7	1643.0	1535.7	1434.8	1387.5
40°	1554.7	1535.7	1419.1	1327.6	1277.2
42.5°	1456.9	1431.7	1318.2	1220.4	1163.6
45°	1352.8	1324.5	1210.9	1110.0	1065.9
47.5°	1248.8	1223.6	1119.5	1015.4	965.0
50°	1138.4	1116.3	1021.7	917.7	864.1
52.5°	1047.0	1012.3	920.8	816.8	772.6
55°	939.7	911.4	826.2	728.5	690.6
57.5°	842.0	813.6	734.8	643.3	611.8
60°	750.5	709.5	643.3	564.5	539.2
62.5°	649.6	618.1	561.3	495.1	526.6
65°	558.2	526.6	476.2	485.6	403.6
67.5°	457.3	441.5	397.3	353.2	340.6
70°	372.1	353.2	337.4	290.1	277.5
72.5°	296.4	277.5	255.4	230.2	220.7
75°	223.9	208.1	195.5	186.1	205.0
77.5°	154.5	148.2	138.8	129.3	126.1
80°	100.9	97.8	94.6	91.5	88.3
82.5°	59.9	59.9	59.9	59.9	59.9
85°	31.5	34.7	37.8	41.0	44.1
87.5°	18.9	18.9	22.1	25.2	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)