

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: P561602

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561602
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-LD4-2LO-40-UNV-81-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

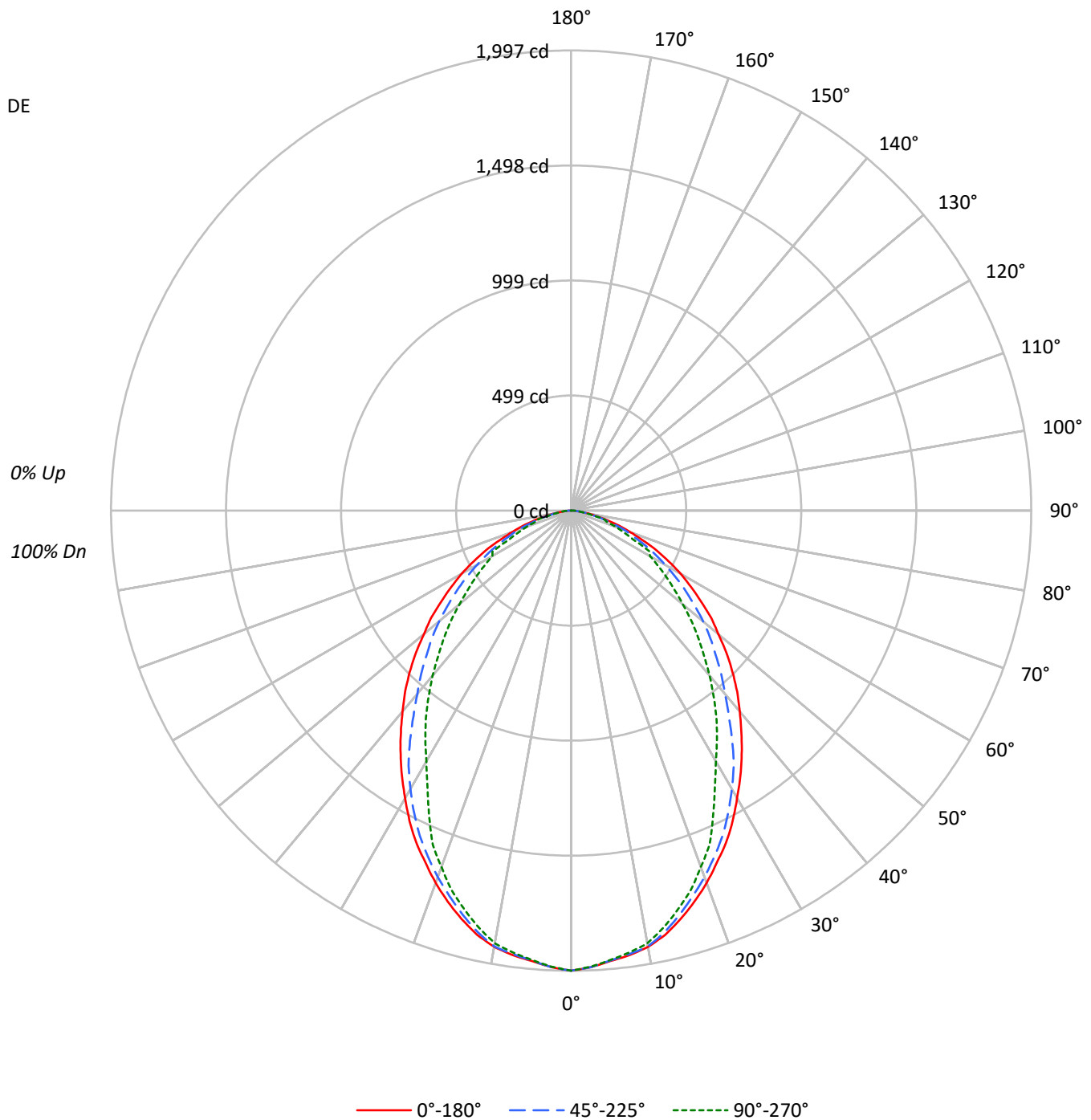
Lumens per Lamp: N/A
Luminaire Lumens: 3920.0 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5373	5373	5373
5°	5300	5294	5288
10°	5254	5248	5210
15°	5113	5061	4990
20°	4925	4846	4713
25°	4722	4620	4332
30°	4476	4332	3902
35°	4239	4004	3610
40°	3998	3649	3284
45°	3769	3373	2970
50°	3489	3131	2648
55°	3227	2837	2372
60°	2957	2534	2124
65°	2602	2220	1882
70°	2143	1943	1598
75°	1704	1488	1560
80°	1145	1074	1001
85°	713	855	997

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3769 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.9	4.7
10°-20°	510.1	13.0
20°-30°	706.2	18.0
30°-40°	753.0	19.2
40°-50°	687.0	17.5
50°-60°	538.2	13.7
60°-70°	350.8	8.9
70°-80°	155.4	4.0
80°-90°	33.4	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°	1402.2	35.8
0°-40°	2155.3	55.0
0°-60°	3380.4	86.2
0°-90°	3920.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3920.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1997	1997	1997	1997	1997	
5°	1962	1960	1960	1958	1958	186
15°	1835	1835	1817	1798	1791	516
25°	1590	1581	1556	1500	1459	730
35°	1290	1281	1219	1126	1099	807
45°	990	970	886	813	780	763
55°	688	667	605	533	506	617
65°	409	386	349	356	296	403
75°	164	152	143	136	150	176
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1996.8	1996.8	1996.8	1996.8	1996.8
2.5°	1982.9	1982.9	1982.9	1980.6	1980.6
5°	1962.2	1959.9	1959.9	1957.6	1957.6
7.5°	1946.0	1943.7	1941.4	1939.1	1934.5
10°	1922.9	1922.9	1920.6	1909.1	1906.8
12.5°	1886.0	1883.7	1874.4	1858.3	1853.7
15°	1835.2	1835.2	1816.7	1798.3	1791.3
17.5°	1779.8	1777.5	1754.4	1735.9	1726.7
20°	1719.8	1715.2	1692.1	1662.1	1645.9
22.5°	1652.8	1652.8	1625.1	1585.9	1569.7
25°	1590.5	1581.3	1555.9	1500.5	1458.9
27.5°	1518.9	1505.1	1477.4	1398.9	1350.4
30°	1440.5	1433.5	1394.3	1292.7	1255.8
32.5°	1366.6	1355.1	1313.5	1207.3	1177.3
35°	1290.4	1281.2	1218.9	1126.5	1098.8
37.5°	1214.2	1202.7	1124.2	1050.3	1015.7
40°	1138.1	1124.2	1038.8	971.9	934.9
42.5°	1066.5	1048.0	964.9	893.4	851.8
45°	990.3	969.5	886.4	812.6	780.3
47.5°	914.1	895.7	819.5	743.3	706.4
50°	833.3	817.2	747.9	671.8	632.5
52.5°	766.4	741.0	674.1	597.9	565.6
55°	687.9	667.1	604.8	533.2	505.5
57.5°	616.4	595.6	537.9	470.9	447.8
60°	549.4	519.4	470.9	413.2	394.7
62.5°	475.5	452.5	410.9	362.4	385.5
65°	408.6	385.5	348.6	355.5	295.5
67.5°	334.7	323.2	290.9	258.5	249.3
70°	272.4	258.5	247.0	212.4	203.1
72.5°	217.0	203.1	187.0	168.5	161.6
75°	163.9	152.4	143.1	136.2	150.0
77.5°	113.1	108.5	101.6	94.6	92.3
80°	73.9	71.6	69.3	66.9	64.6
82.5°	43.9	43.9	43.9	43.9	43.9
85°	23.1	25.4	27.7	30.0	32.3
87.5°	13.9	13.9	16.2	18.5	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)