

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: P561540

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561540
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-35-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

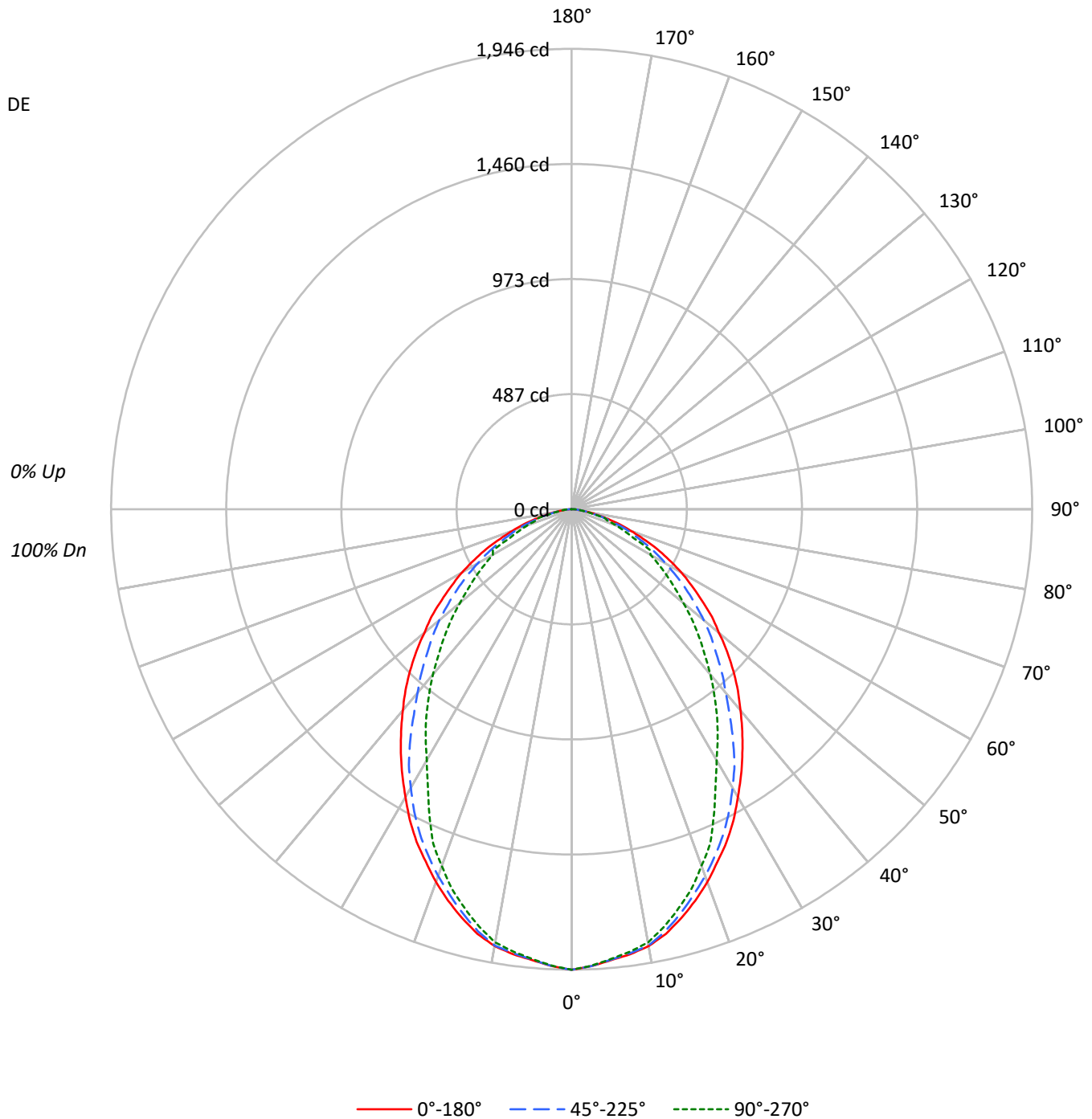
Lumens per Lamp: N/A
Luminaire Lumens: 3821.0 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	5238	5238	5238
5°	5166	5160	5154
10°	5122	5115	5079
15°	4984	4934	4864
20°	4801	4723	4594
25°	4603	4503	4222
30°	4363	4223	3804
35°	4132	3903	3519
40°	3897	3557	3201
45°	3674	3288	2894
50°	3401	3052	2581
55°	3146	2766	2312
60°	2882	2470	2071
65°	2536	2164	1834
70°	2089	1895	1558
75°	1661	1450	1521
80°	1116	1046	976
85°	695	834	973

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3674 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.2	4.7
10°-20°	497.2	13.0
20°-30°	688.4	18.0
30°-40°	734.0	19.2
40°-50°	669.6	17.5
50°-60°	524.6	13.7
60°-70°	341.9	8.9
70°-80°	151.5	4.0
80°-90°	32.6	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°	1366.8	35.8
0°-40°	2100.8	55.0
0°-60°	3295.1	86.2
0°-90°	3821.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3821.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1913	1910	1910	1908	1908	182
15°	1789	1789	1771	1753	1746	503
25°	1550	1541	1517	1463	1422	712
35°	1258	1249	1188	1098	1071	786
45°	965	945	864	792	760	744
55°	670	650	590	520	493	601
65°	398	376	340	346	288	393
75°	160	148	140	133	146	171
85°	22	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1946.4	1946.4	1946.4	1946.4	1946.4
2.5°	1932.9	1932.9	1932.9	1930.6	1930.6
5°	1912.6	1910.4	1910.4	1908.1	1908.1
7.5°	1896.9	1894.6	1892.4	1890.1	1885.6
10°	1874.4	1874.4	1872.1	1860.9	1858.6
12.5°	1838.4	1836.1	1827.1	1811.4	1806.9
15°	1788.9	1788.9	1770.9	1752.9	1746.1
17.5°	1734.9	1732.6	1710.1	1692.1	1683.1
20°	1676.4	1671.8	1649.3	1620.1	1604.3
22.5°	1611.1	1611.1	1584.1	1545.8	1530.1
25°	1550.3	1541.3	1516.6	1462.6	1422.1
27.5°	1480.6	1467.1	1440.1	1363.6	1316.3
30°	1404.1	1397.3	1359.1	1260.1	1224.1
32.5°	1332.1	1320.8	1280.3	1176.8	1147.6
35°	1257.8	1248.8	1188.1	1098.1	1071.1
37.5°	1183.6	1172.3	1095.8	1023.8	990.1
40°	1109.3	1095.8	1012.6	947.3	911.3
42.5°	1039.6	1021.6	940.6	870.8	830.3
45°	965.3	945.1	864.1	792.0	760.5
47.5°	891.1	873.1	798.8	724.5	688.5
50°	812.3	796.5	729.0	654.8	616.5
52.5°	747.0	722.3	657.0	582.8	551.3
55°	670.5	650.3	589.5	519.8	492.8
57.5°	600.8	580.5	524.3	459.0	436.5
60°	535.5	506.3	459.0	402.8	384.8
62.5°	463.5	441.0	400.5	353.3	375.8
65°	398.3	375.8	339.8	346.5	288.0
67.5°	326.3	315.0	283.5	252.0	243.0
70°	265.5	252.0	240.8	207.0	198.0
72.5°	211.5	198.0	182.3	164.3	157.5
75°	159.8	148.5	139.5	132.8	146.3
77.5°	110.3	105.8	99.0	92.3	90.0
80°	72.0	69.8	67.5	65.3	63.0
82.5°	42.8	42.8	42.8	42.8	42.8
85°	22.5	24.8	27.0	29.3	31.5
87.5°	13.5	13.5	15.8	18.0	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)