

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: P560837

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560837
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-LD4-1HI-40-UNV-81-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3788.0 lumens
Efficiency: N/A
Efficacy: 87.7 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

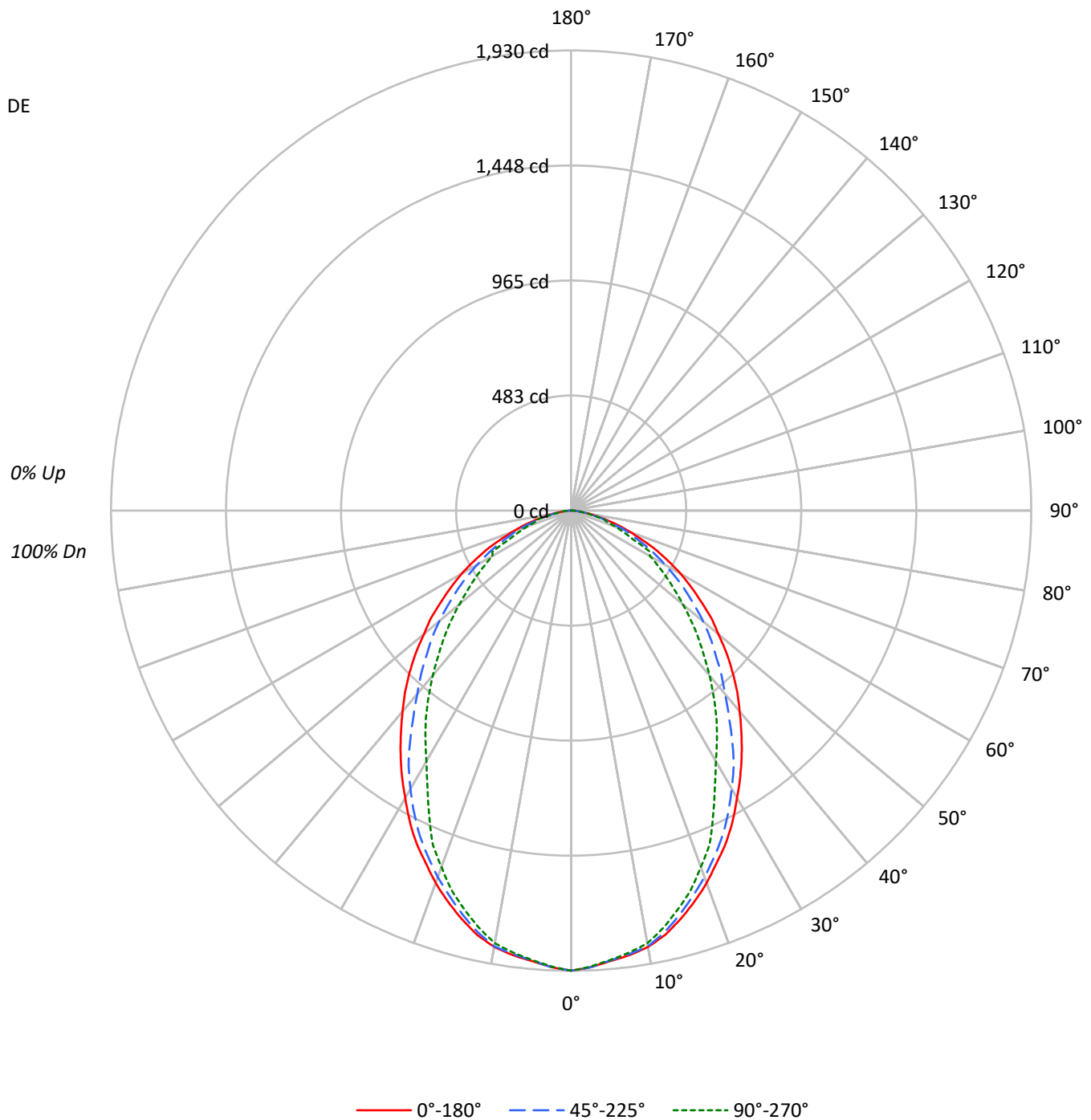
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5193	5193	5193
5°	5122	5116	5110
10°	5078	5071	5035
15°	4941	4891	4822
20°	4759	4682	4555
25°	4564	4464	4186
30°	4325	4186	3771
35°	4096	3869	3488
40°	3863	3526	3173
45°	3642	3260	2869
50°	3371	3026	2559
55°	3118	2742	2292
60°	2857	2449	2053
65°	2514	2145	1818
70°	2071	1878	1544
75°	1647	1438	1508
80°	1106	1037	969
85°	689	827	963

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3642 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.6	4.7
10°-20°	492.9	13.0
20°-30°	682.4	18.0
30°-40°	727.7	19.2
40°-50°	663.9	17.5
50°-60°	520.1	13.7
60°-70°	339.0	8.9
70°-80°	150.2	4.0
80°-90°	32.2	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°	1355.0	35.8
0°-40°	2082.7	55.0
0°-60°	3266.6	86.2
0°-90°	3788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3788.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1930	1930	1930	1930	1930	
5°	1896	1894	1894	1892	1892	180
15°	1773	1773	1756	1738	1731	499
25°	1537	1528	1504	1450	1410	706
35°	1247	1238	1178	1089	1062	780
45°	957	937	857	785	754	737
55°	665	645	584	515	488	596
65°	395	372	337	344	286	389
75°	158	147	138	132	145	170
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1929.6	1929.6	1929.6	1929.6	1929.6
2.5°	1916.2	1916.2	1916.2	1913.9	1913.9
5°	1896.1	1893.9	1893.9	1891.6	1891.6
7.5°	1880.5	1878.3	1876.0	1873.8	1869.3
10°	1858.2	1858.2	1855.9	1844.8	1842.6
12.5°	1822.5	1820.3	1811.3	1795.7	1791.3
15°	1773.4	1773.4	1755.6	1737.7	1731.0
17.5°	1719.9	1717.6	1695.3	1677.5	1668.6
20°	1661.9	1657.4	1635.1	1606.1	1590.5
22.5°	1597.2	1597.2	1570.4	1532.5	1516.9
25°	1537.0	1528.0	1503.5	1450.0	1409.8
27.5°	1467.8	1454.4	1427.6	1351.8	1305.0
30°	1392.0	1385.3	1347.3	1249.2	1213.5
32.5°	1320.6	1309.4	1269.3	1166.7	1137.7
35°	1247.0	1238.0	1177.8	1088.6	1061.8
37.5°	1173.3	1162.2	1086.4	1015.0	981.5
40°	1099.7	1086.4	1003.8	939.1	903.4
42.5°	1030.6	1012.7	932.4	863.3	823.1
45°	957.0	936.9	856.6	785.2	754.0
47.5°	883.4	865.5	791.9	718.3	682.6
50°	805.3	789.7	722.7	649.1	611.2
52.5°	740.6	716.1	651.4	577.8	546.5
55°	664.7	644.7	584.4	515.3	488.5
57.5°	595.6	575.5	519.8	455.1	432.8
60°	530.9	501.9	455.1	399.3	381.4
62.5°	459.5	437.2	397.1	350.2	372.5
65°	394.8	372.5	336.8	343.5	285.5
67.5°	323.5	312.3	281.1	249.8	240.9
70°	263.2	249.8	238.7	205.2	196.3
72.5°	209.7	196.3	180.7	162.8	156.1
75°	158.4	147.2	138.3	131.6	145.0
77.5°	109.3	104.8	98.2	91.5	89.2
80°	71.4	69.2	66.9	64.7	62.5
82.5°	42.4	42.4	42.4	42.4	42.4
85°	22.3	24.5	26.8	29.0	31.2
87.5°	13.4	13.4	15.6	17.8	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)