

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: P560783

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560783
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-35-UNV-81-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3699.0 lumens
Efficiency: N/A
Efficacy: 85.6 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

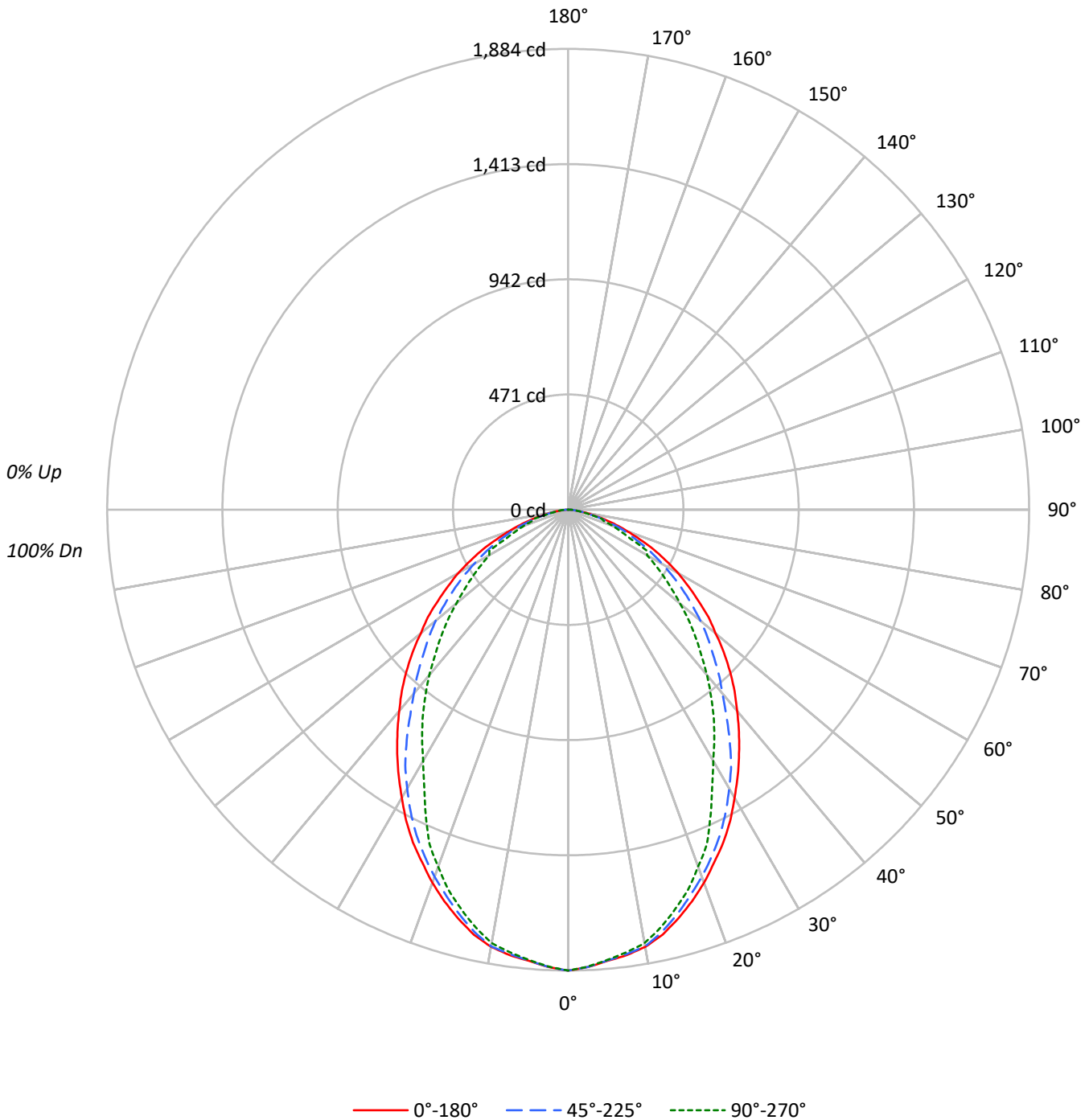
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	5070	5070	5070
5°	5001	4996	4990
10°	4958	4952	4917
15°	4824	4776	4709
20°	4647	4572	4448
25°	4456	4359	4088
30°	4224	4088	3682
35°	4000	3778	3406
40°	3772	3443	3099
45°	3556	3183	2802
50°	3292	2955	2499
55°	3045	2677	2238
60°	2790	2392	2005
65°	2455	2094	1775
70°	2022	1834	1508
75°	1608	1405	1472
80°	1080	1012	945
85°	673	806	942

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3556 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.4	4.7
10°-20°	481.4	13.0
20°-30°	666.4	18.0
30°-40°	710.6	19.2
40°-50°	648.3	17.5
50°-60°	507.9	13.7
60°-70°	331.0	8.9
70°-80°	146.6	4.0
80°-90°	31.5	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°	1323.2	35.8
0°-40°	2033.7	55.0
0°-60°	3189.9	86.2
0°-90°	3699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3699.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1884	1884	1884	1884	1884	
5°	1852	1849	1849	1847	1847	176
15°	1732	1732	1714	1697	1690	487
25°	1501	1492	1468	1416	1377	689
35°	1218	1209	1150	1063	1037	761
45°	934	915	836	767	736	720
55°	649	630	571	503	477	582
65°	386	364	329	336	279	380
75°	155	144	135	128	142	166
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1884.2	1884.2	1884.2	1884.2	1884.2
2.5°	1871.2	1871.2	1871.2	1869.0	1869.0
5°	1851.5	1849.4	1849.4	1847.2	1847.2
7.5°	1836.3	1834.1	1831.9	1829.8	1825.4
10°	1814.5	1814.5	1812.3	1801.4	1799.3
12.5°	1779.7	1777.5	1768.8	1753.5	1749.2
15°	1731.7	1731.7	1714.3	1696.9	1690.4
17.5°	1679.5	1677.3	1655.5	1638.1	1629.4
20°	1622.8	1618.5	1596.7	1568.4	1553.1
22.5°	1559.7	1559.7	1533.5	1496.5	1481.2
25°	1500.8	1492.1	1468.2	1415.9	1376.7
27.5°	1433.3	1420.2	1394.1	1320.0	1274.3
30°	1359.3	1352.7	1315.7	1219.8	1185.0
32.5°	1289.5	1278.7	1239.4	1139.2	1110.9
35°	1217.7	1209.0	1150.1	1063.0	1036.9
37.5°	1145.8	1134.9	1060.8	991.1	958.4
40°	1073.9	1060.8	980.2	917.1	882.2
42.5°	1006.4	988.9	910.5	843.0	803.8
45°	934.5	914.9	836.5	766.8	736.3
47.5°	862.6	845.2	773.3	701.4	666.6
50°	786.4	771.1	705.8	633.9	596.9
52.5°	723.2	699.2	636.1	564.2	533.7
55°	649.1	629.5	570.7	503.2	477.0
57.5°	581.6	562.0	507.5	444.4	422.6
60°	518.4	490.1	444.4	389.9	372.5
62.5°	448.7	426.9	387.7	342.0	363.8
65°	385.6	363.8	328.9	335.5	278.8
67.5°	315.9	305.0	274.5	244.0	235.3
70°	257.0	244.0	233.1	200.4	191.7
72.5°	204.8	191.7	176.4	159.0	152.5
75°	154.7	143.8	135.1	128.5	141.6
77.5°	106.7	102.4	95.8	89.3	87.1
80°	69.7	67.5	65.3	63.2	61.0
82.5°	41.4	41.4	41.4	41.4	41.4
85°	21.8	24.0	26.1	28.3	30.5
87.5°	13.1	13.1	15.2	17.4	19.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)