

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: P560819

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560819
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-80-85-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4033.0 lumens
Efficiency: N/A
Efficacy: 93.4 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

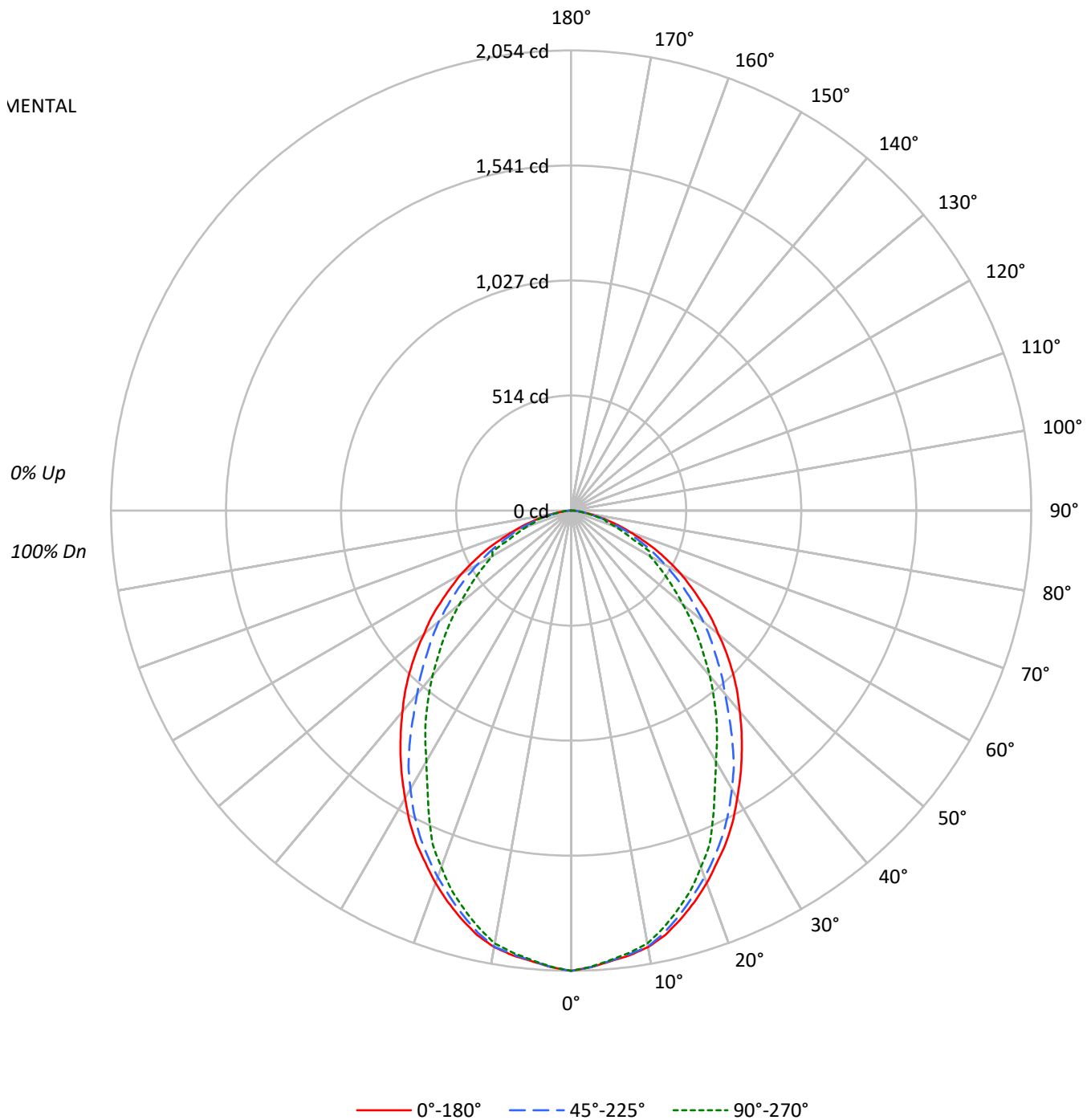
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5528	5528	5528
5°	5453	5447	5440
10°	5406	5399	5360
15°	5260	5207	5134
20°	5067	4985	4849
25°	4859	4753	4457
30°	4605	4457	4015
35°	4361	4119	3714
40°	4113	3754	3379
45°	3878	3471	3055
50°	3589	3221	2724
55°	3320	2919	2440
60°	3042	2608	2186
65°	2677	2283	1936
70°	2205	1999	1644
75°	1753	1530	1605
80°	1178	1103	1031
85°	732	880	1025

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3878 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.2	4.7
10°-20°	524.8	13.0
20°-30°	726.6	18.0
30°-40°	774.7	19.2
40°-50°	706.8	17.5
50°-60°	553.7	13.7
60°-70°	360.9	8.9
70°-80°	159.9	4.0
80°-90°	34.3	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°	1442.6	35.8
0°-40°	2217.4	55.0
0°-60°	3477.9	86.2
0°-90°	4033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4033.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2054	2054	2054	2054	2054	
5°	2019	2016	2016	2014	2014	192
15°	1888	1888	1869	1850	1843	531
25°	1636	1627	1601	1544	1501	751
35°	1328	1318	1254	1159	1130	830
45°	1019	998	912	836	803	785
55°	708	686	622	549	520	635
65°	420	397	359	366	304	414
75°	169	157	147	140	154	181
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2054.4	2054.4	2054.4	2054.4	2054.4
2.5°	2040.1	2040.1	2040.1	2037.7	2037.7
5°	2018.7	2016.4	2016.4	2014.0	2014.0
7.5°	2002.1	1999.7	1997.4	1995.0	1990.2
10°	1978.4	1978.4	1976.0	1964.1	1961.7
12.5°	1940.4	1938.0	1928.5	1911.9	1907.1
15°	1888.1	1888.1	1869.1	1850.1	1843.0
17.5°	1831.1	1828.7	1805.0	1786.0	1776.5
20°	1769.4	1764.6	1740.9	1710.0	1693.4
22.5°	1700.5	1700.5	1672.0	1631.6	1615.0
25°	1636.4	1626.9	1600.7	1543.7	1501.0
27.5°	1562.7	1548.5	1520.0	1439.2	1389.4
30°	1482.0	1474.9	1434.5	1330.0	1292.0
32.5°	1406.0	1394.1	1351.4	1242.1	1211.2
35°	1327.6	1318.1	1254.0	1159.0	1130.5
37.5°	1249.2	1237.4	1156.6	1080.6	1045.0
40°	1170.9	1156.6	1068.7	999.9	961.9
42.5°	1097.2	1078.2	992.7	919.1	876.4
45°	1018.9	997.5	912.0	836.0	802.7
47.5°	940.5	921.5	843.1	764.7	726.7
50°	857.4	840.7	769.5	691.1	650.7
52.5°	788.5	762.4	693.5	615.1	581.9
55°	707.7	686.4	622.2	548.6	520.1
57.5°	634.1	612.7	553.4	484.5	460.7
60°	565.2	534.4	484.5	425.1	406.1
62.5°	489.2	465.5	422.7	372.9	396.6
65°	420.4	396.6	358.6	365.7	304.0
67.5°	344.4	332.5	299.2	266.0	256.5
70°	280.2	266.0	254.1	218.5	209.0
72.5°	223.2	209.0	192.4	173.4	166.2
75°	168.6	156.7	147.2	140.1	154.4
77.5°	116.4	111.6	104.5	97.4	95.0
80°	76.0	73.6	71.2	68.9	66.5
82.5°	45.1	45.1	45.1	45.1	45.1
85°	23.7	26.1	28.5	30.9	33.2
87.5°	14.2	14.2	16.6	19.0	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)