

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: P560833

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560833
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-81-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3909.0 lumens
Efficiency: N/A
Efficacy: 90.5 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

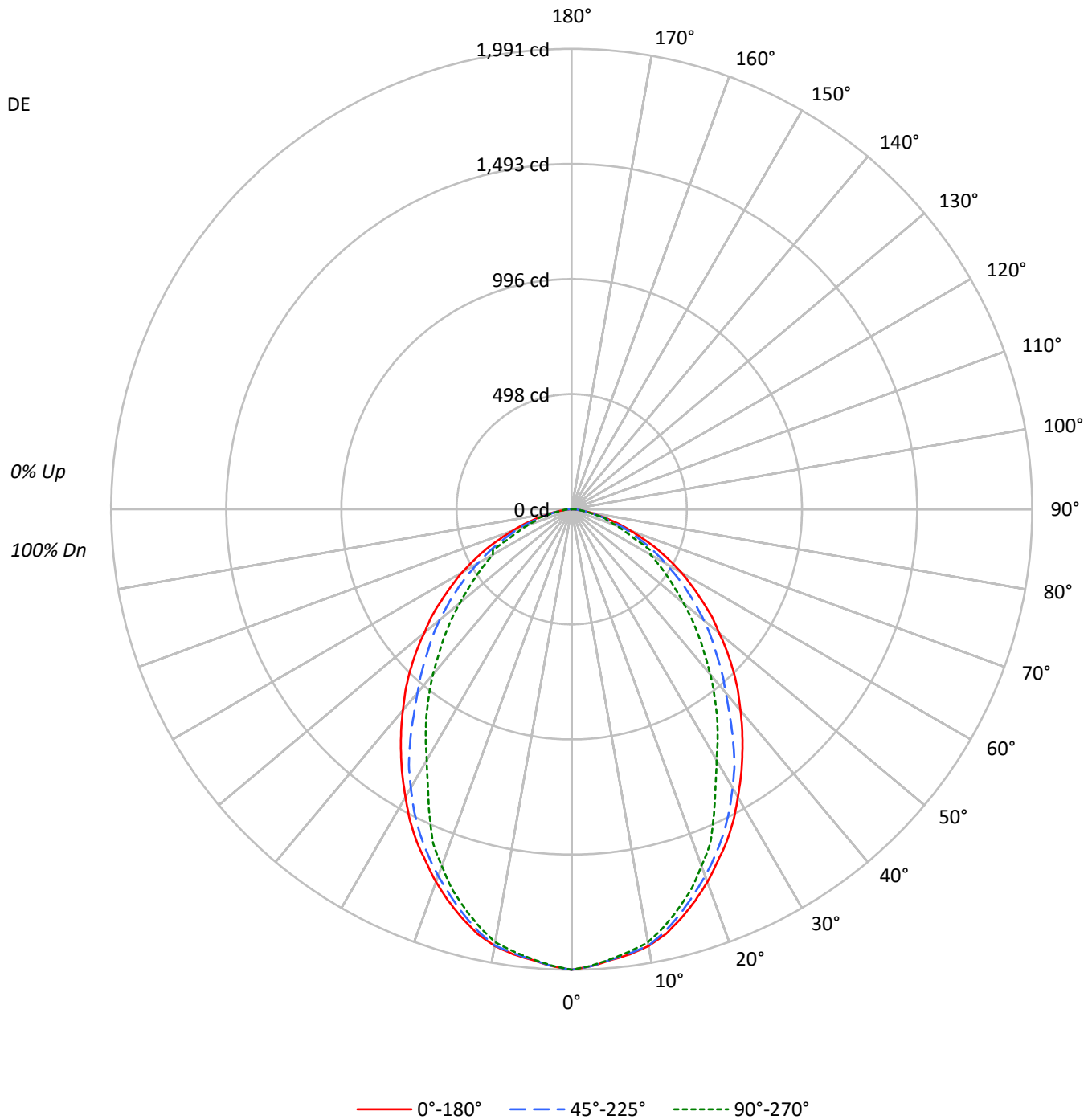
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5358	5358	5358
5°	5286	5279	5273
10°	5240	5233	5196
15°	5098	5047	4976
20°	4911	4832	4700
25°	4709	4607	4320
30°	4463	4320	3891
35°	4227	3993	3599
40°	3987	3639	3275
45°	3758	3364	2961
50°	3479	3122	2640
55°	3218	2829	2365
60°	2949	2527	2118
65°	2594	2213	1876
70°	2137	1938	1594
75°	1699	1484	1555
80°	1142	1071	1000
85°	710	852	994

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3758 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.4	4.7
10°-20°	508.7	13.0
20°-30°	704.2	18.0
30°-40°	750.9	19.2
40°-50°	685.1	17.5
50°-60°	536.7	13.7
60°-70°	349.8	8.9
70°-80°	155.0	4.0
80°-90°	33.3	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°	1398.3	35.8
0°-40°	2149.2	55.0
0°-60°	3371.0	86.2
0°-90°	3909.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3909.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1991	1991	1991	1991	1991	
5°	1957	1954	1954	1952	1952	186
15°	1830	1830	1812	1793	1786	514
25°	1586	1577	1552	1496	1455	728
35°	1287	1278	1215	1123	1096	804
45°	988	967	884	810	778	761
55°	686	665	603	532	504	615
65°	407	384	348	354	295	402
75°	163	152	143	136	150	175
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°	1991.2	1991.2	1991.2	1991.2	1991.2
2.5°	1977.4	1977.4	1977.4	1975.1	1975.1
5°	1956.7	1954.4	1954.4	1952.1	1952.1
7.5°	1940.5	1938.2	1935.9	1933.6	1929.0
10°	1917.5	1917.5	1915.2	1903.7	1901.4
12.5°	1880.7	1878.4	1869.2	1853.1	1848.5
15°	1830.1	1830.1	1811.6	1793.2	1786.3
17.5°	1774.8	1772.5	1749.5	1731.1	1721.9
20°	1715.0	1710.4	1687.3	1657.4	1641.3
22.5°	1648.2	1648.2	1620.6	1581.4	1565.3
25°	1586.0	1576.8	1551.5	1496.3	1454.8
27.5°	1514.7	1500.9	1473.3	1395.0	1346.6
30°	1436.4	1429.5	1390.4	1289.1	1252.3
32.5°	1362.8	1351.2	1309.8	1203.9	1174.0
35°	1286.8	1277.6	1215.4	1123.4	1095.7
37.5°	1210.8	1199.3	1121.1	1047.4	1012.9
40°	1134.9	1121.1	1035.9	969.1	932.3
42.5°	1063.5	1045.1	962.2	890.9	849.4
45°	987.5	966.8	884.0	810.3	778.1
47.5°	911.6	893.2	817.2	741.2	704.4
50°	831.0	814.9	745.8	669.9	630.7
52.5°	764.2	738.9	672.2	596.2	564.0
55°	686.0	665.3	603.1	531.8	504.1
57.5°	614.6	593.9	536.4	469.6	446.6
60°	547.9	517.9	469.6	412.1	393.6
62.5°	474.2	451.2	409.7	361.4	384.4
65°	407.4	384.4	347.6	354.5	294.7
67.5°	333.8	322.3	290.0	257.8	248.6
70°	271.6	257.8	246.3	211.8	202.6
72.5°	216.4	202.6	186.5	168.0	161.1
75°	163.4	151.9	142.7	135.8	149.6
77.5°	112.8	108.2	101.3	94.4	92.1
80°	73.7	71.4	69.1	66.8	64.5
82.5°	43.7	43.7	43.7	43.7	43.7
85°	23.0	25.3	27.6	29.9	32.2
87.5°	13.8	13.8	16.1	18.4	20.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)