

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: P560843

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560843
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-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3918.0 lumens
Efficiency: N/A
Efficacy: 90.7 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

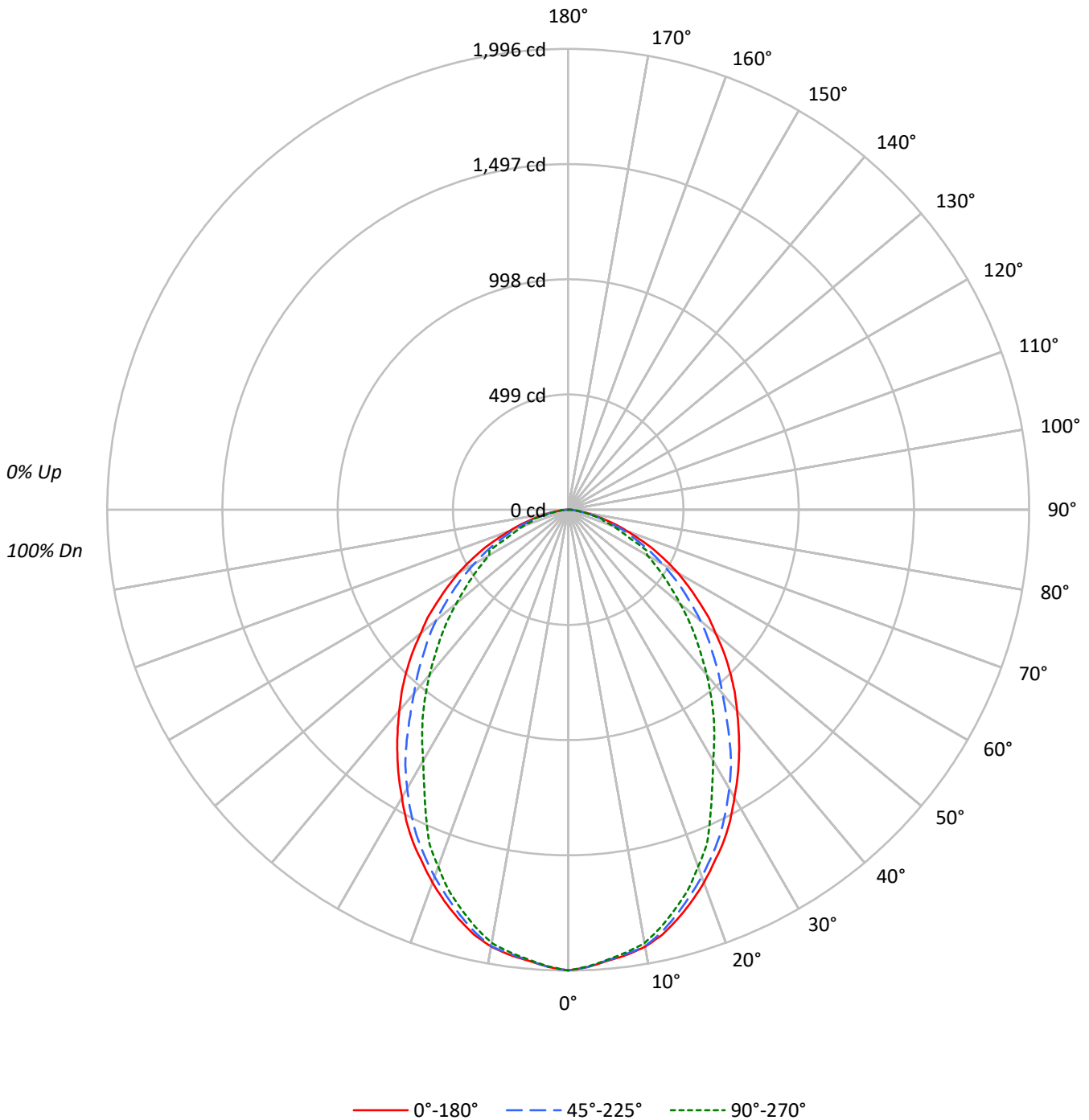
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	5371	5371	5371
5°	5298	5291	5285
10°	5252	5245	5208
15°	5110	5059	4988
20°	4922	4843	4711
25°	4720	4617	4330
30°	4474	4330	3900
35°	4237	4002	3608
40°	3996	3647	3282
45°	3767	3372	2968
50°	3487	3130	2647
55°	3226	2836	2371
60°	2955	2533	2123
65°	2600	2218	1880
70°	2142	1943	1597
75°	1703	1487	1560
80°	1144	1072	1001
85°	713	855	997

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3767 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.8	4.7
10°-20°	509.9	13.0
20°-30°	705.9	18.0
30°-40°	752.7	19.2
40°-50°	686.6	17.5
50°-60°	537.9	13.7
60°-70°	350.6	8.9
70°-80°	155.3	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°	1401.5	35.8
0°-40°	2154.2	55.0
0°-60°	3378.7	86.2
0°-90°	3918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1996	1996	1996	1996	1996	
5°	1961	1959	1959	1957	1957	186
15°	1834	1834	1816	1797	1790	516
25°	1590	1580	1555	1500	1458	730
35°	1290	1280	1218	1126	1098	806
45°	990	969	886	812	780	762
55°	688	667	604	533	505	617
65°	408	385	348	355	295	402
75°	164	152	143	136	150	176
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°	1995.8	1995.8	1995.8	1995.8	1995.8
2.5°	1981.9	1981.9	1981.9	1979.6	1979.6
5°	1961.2	1958.9	1958.9	1956.6	1956.6
7.5°	1945.0	1942.7	1940.4	1938.1	1933.5
10°	1921.9	1921.9	1919.6	1908.1	1905.8
12.5°	1885.0	1882.7	1873.5	1857.3	1852.7
15°	1834.3	1834.3	1815.8	1797.4	1790.4
17.5°	1778.9	1776.6	1753.5	1735.1	1725.8
20°	1718.9	1714.3	1691.2	1661.2	1645.1
22.5°	1652.0	1652.0	1624.3	1585.1	1568.9
25°	1589.7	1580.5	1555.1	1499.7	1458.2
27.5°	1518.2	1504.3	1476.6	1398.2	1349.7
30°	1439.7	1432.8	1393.6	1292.1	1255.1
32.5°	1365.9	1354.4	1312.8	1206.7	1176.7
35°	1289.8	1280.5	1218.2	1125.9	1098.3
37.5°	1213.6	1202.1	1123.6	1049.8	1015.2
40°	1137.5	1123.6	1038.3	971.4	934.4
42.5°	1066.0	1047.5	964.4	892.9	851.4
45°	989.8	969.0	886.0	812.2	779.9
47.5°	913.7	895.2	819.1	742.9	706.0
50°	832.9	816.8	747.6	671.4	632.2
52.5°	766.0	740.6	673.7	597.6	565.3
55°	687.6	666.8	604.5	533.0	505.3
57.5°	616.0	595.3	537.6	470.7	447.6
60°	549.1	519.1	470.7	413.0	394.5
62.5°	475.3	452.2	410.7	362.2	385.3
65°	408.4	385.3	348.4	355.3	295.3
67.5°	334.6	323.0	290.7	258.4	249.2
70°	272.3	258.4	246.9	212.3	203.0
72.5°	216.9	203.0	186.9	168.4	161.5
75°	163.8	152.3	143.0	136.1	150.0
77.5°	113.1	108.4	101.5	94.6	92.3
80°	73.8	71.5	69.2	66.9	64.6
82.5°	43.8	43.8	43.8	43.8	43.8
85°	23.1	25.4	27.7	30.0	32.3
87.5°	13.8	13.8	16.2	18.5	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)