

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: P590211

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590211
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-50-UNV-81-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4630.0 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

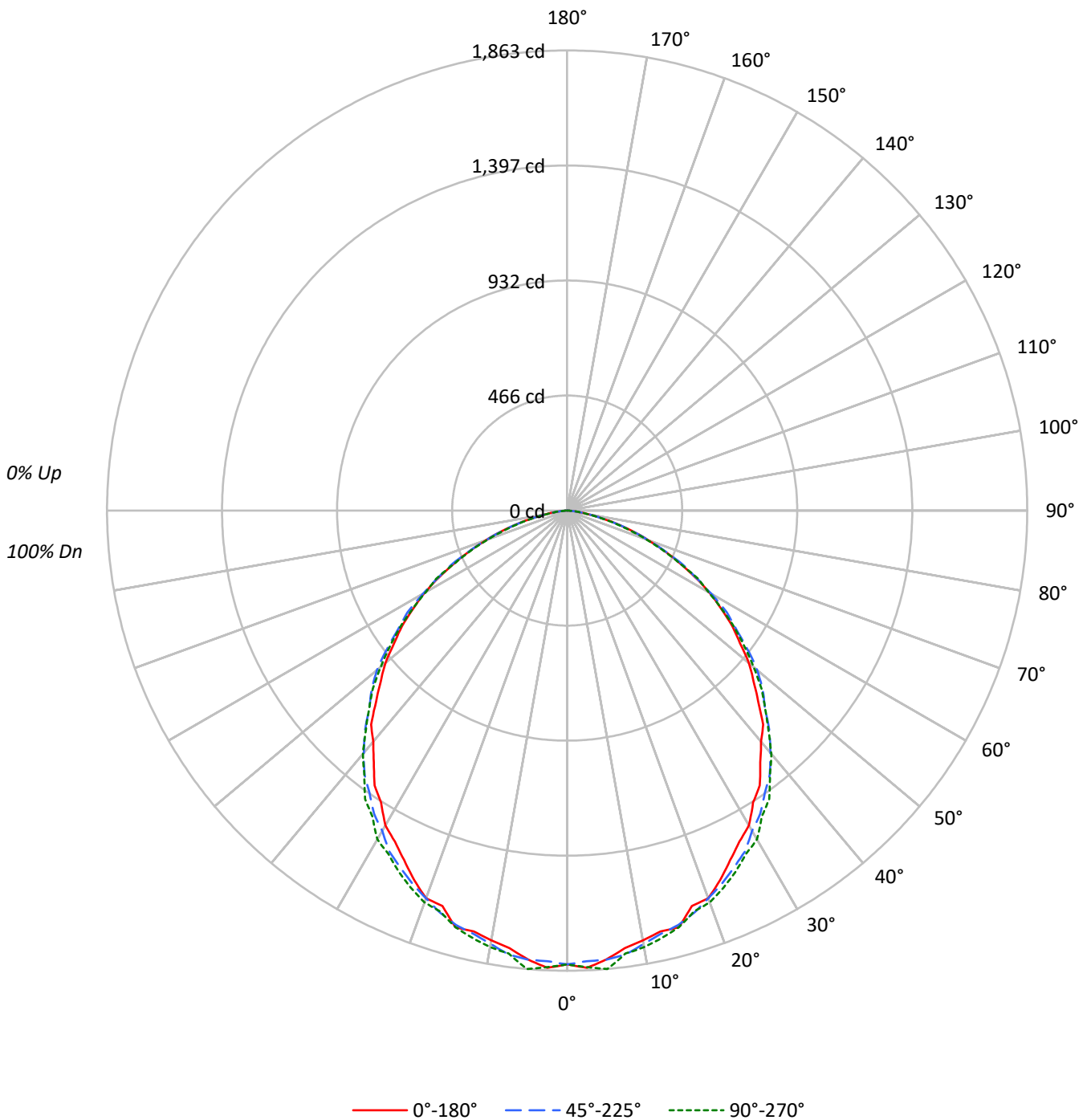
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4944	4944	4944
5°	4927	4929	5033
10°	4827	4869	4904
15°	4866	4839	4866
20°	4783	4783	4834
25°	4636	4738	4790
30°	4573	4653	4777
35°	4465	4582	4685
40°	4291	4498	4518
45°	4161	4309	4316
50°	4024	4207	4126
55°	3835	3909	3881
60°	3586	3622	3556
65°	3197	3279	3175
70°	2744	2753	2676
75°	2173	2168	2084
80°	1455	1415	1361
85°	790	784	732

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4420 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	3.7
10°-20°	489.7	10.6
20°-30°	733.7	15.8
30°-40°	869.6	18.8
40°-50°	871.2	18.8
50°-60°	739.5	16.0
60°-70°	498.6	10.8
70°-80°	219.1	4.7
80°-90°	35.6	0.8
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°	1396.3	30.2
0°-40°	2265.9	48.9
0°-60°	3876.7	83.7
0°-90°	4630.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4630.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1837	1837	1837	1837	1837	
5°	1824	1820	1825	1819	1863	172
15°	1746	1726	1737	1746	1747	487
25°	1561	1570	1596	1616	1613	722
35°	1359	1363	1395	1427	1426	844
45°	1094	1114	1132	1162	1134	846
55°	817	812	833	828	827	727
65°	502	496	515	495	499	499
75°	209	205	208	194	200	224
85°	26	25	25	25	24	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1837.1	1837.1	1837.1	1837.1	1837.1
2.5°	1853.0	1839.0	1825.9	1841.1	1850.3
5°	1824.0	1819.8	1824.7	1819.3	1863.2
7.5°	1786.5	1802.9	1812.4	1806.5	1809.1
10°	1766.6	1760.9	1782.0	1796.7	1794.6
12.5°	1745.3	1753.8	1755.0	1770.9	1772.3
15°	1746.5	1726.3	1737.0	1746.0	1746.7
17.5°	1678.6	1700.4	1707.8	1728.4	1702.8
20°	1670.3	1654.4	1670.3	1691.4	1688.1
22.5°	1619.3	1601.5	1635.7	1654.4	1653.2
25°	1561.4	1570.0	1595.6	1616.5	1613.2
27.5°	1510.7	1520.7	1557.2	1585.9	1567.4
30°	1471.6	1466.6	1497.4	1523.0	1537.3
32.5°	1401.6	1419.6	1455.7	1481.0	1467.5
35°	1359.1	1363.2	1394.7	1427.0	1426.0
37.5°	1284.9	1303.6	1348.0	1357.0	1348.7
40°	1221.5	1240.3	1280.4	1290.1	1286.1
42.5°	1174.8	1178.1	1212.5	1223.7	1205.9
45°	1093.5	1113.9	1132.4	1161.5	1134.0
47.5°	1024.2	1033.7	1073.5	1081.4	1066.9
50°	961.3	964.7	1004.8	995.0	985.5
52.5°	882.4	896.4	918.9	917.0	905.8
55°	817.4	811.9	833.3	827.6	827.3
57.5°	739.3	748.8	766.4	757.4	742.9
60°	666.3	666.5	672.9	662.7	660.8
62.5°	584.9	587.8	589.2	576.6	597.0
65°	502.1	495.5	514.9	495.3	498.6
67.5°	426.0	429.3	427.4	415.1	419.8
70°	348.7	352.9	349.9	335.9	340.1
72.5°	278.0	272.8	276.1	258.5	266.6
75°	209.0	204.7	208.5	193.8	200.4
77.5°	142.3	145.6	143.3	135.4	139.9
80°	93.9	91.3	91.3	86.8	87.8
82.5°	54.8	52.2	51.5	50.0	52.2
85°	25.6	24.9	25.4	24.7	23.7
87.5°	9.3	9.5	9.5	9.0	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)