

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: P590147

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590147
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4507.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

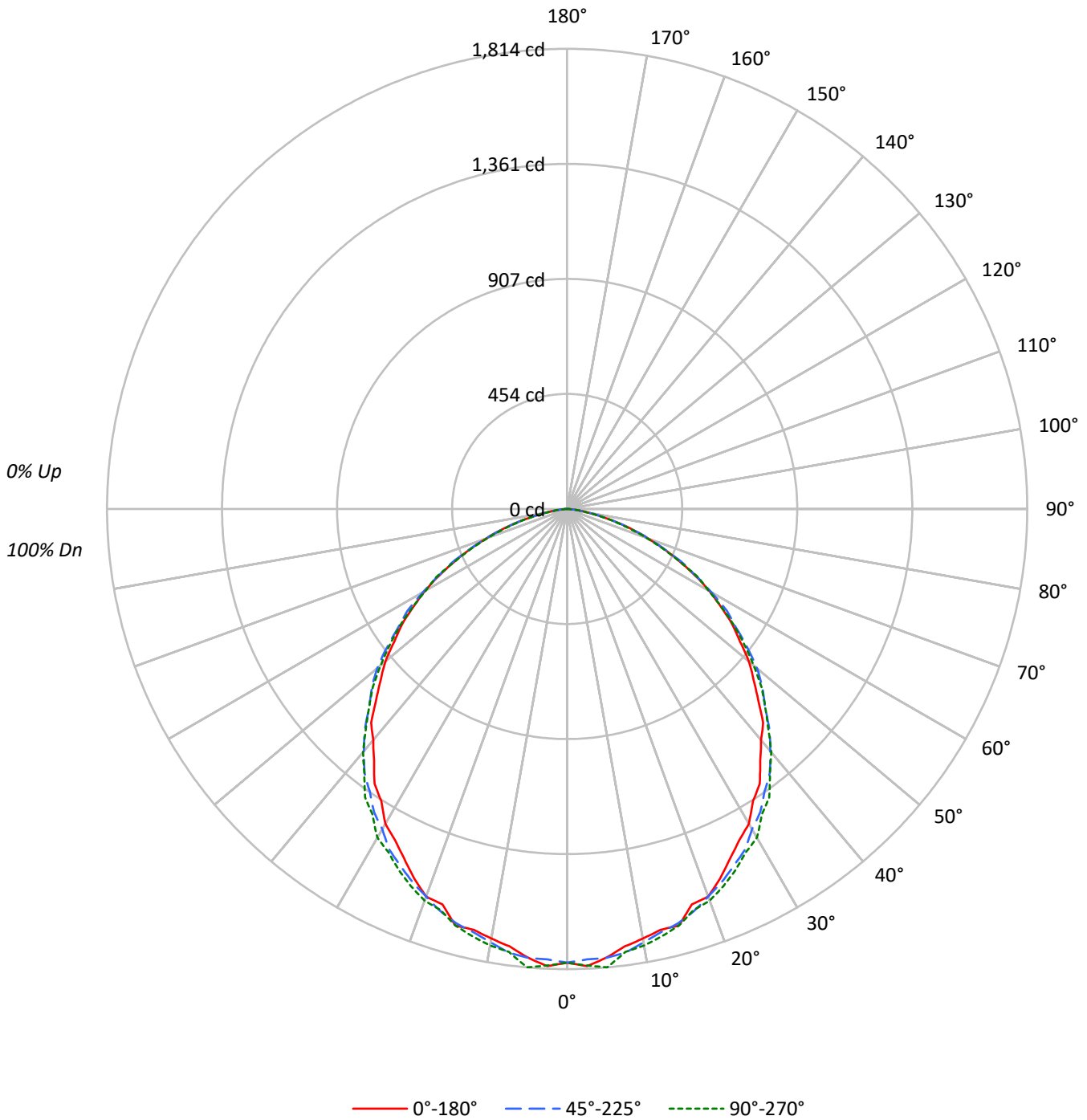
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4812	4812	4812
5°	4796	4798	4899
10°	4699	4740	4773
15°	4736	4710	4737
20°	4656	4656	4706
25°	4513	4612	4662
30°	4451	4529	4650
35°	4346	4460	4560
40°	4177	4378	4398
45°	4051	4195	4201
50°	3918	4095	4016
55°	3733	3805	3779
60°	3491	3525	3462
65°	3112	3192	3090
70°	2670	2680	2605
75°	2115	2111	2028
80°	1416	1378	1323
85°	769	763	713

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4303 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.2	3.7
10°-20°	476.7	10.6
20°-30°	714.3	15.8
30°-40°	846.5	18.8
40°-50°	848.1	18.8
50°-60°	719.9	16.0
60°-70°	485.4	10.8
70°-80°	213.3	4.7
80°-90°	34.6	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°	1359.2	30.2
0°-40°	2205.7	48.9
0°-60°	3773.7	83.7
0°-90°	4507.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4507.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1788	1788	1788	1788	1788	
5°	1776	1771	1776	1771	1814	167
15°	1700	1680	1691	1700	1700	474
25°	1520	1528	1553	1574	1570	703
35°	1323	1327	1358	1389	1388	821
45°	1064	1084	1102	1131	1104	823
55°	796	790	811	806	805	708
65°	489	482	501	482	485	486
75°	203	199	203	189	195	218
85°	25	24	25	24	23	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1788.3	1788.3	1788.3	1788.3	1788.3
2.5°	1803.7	1790.1	1777.4	1792.2	1801.2
5°	1775.6	1771.4	1776.3	1770.9	1813.7
7.5°	1739.1	1755.0	1764.3	1758.5	1761.0
10°	1719.7	1714.1	1734.7	1749.0	1746.9
12.5°	1698.9	1707.2	1708.4	1723.8	1725.2
15°	1700.1	1680.4	1690.8	1699.6	1700.3
17.5°	1634.0	1655.3	1662.4	1682.5	1657.6
20°	1625.9	1610.5	1625.9	1646.5	1643.3
22.5°	1576.3	1559.0	1592.2	1610.5	1609.3
25°	1520.0	1528.3	1553.2	1573.5	1570.3
27.5°	1470.6	1480.3	1515.8	1543.7	1525.7
30°	1432.5	1427.6	1457.6	1482.6	1496.4
32.5°	1364.3	1381.9	1417.0	1441.7	1428.5
35°	1323.0	1326.9	1357.6	1389.1	1388.1
37.5°	1250.7	1269.0	1312.2	1320.9	1312.9
40°	1189.1	1207.3	1246.4	1255.8	1251.9
42.5°	1143.6	1146.8	1180.3	1191.2	1173.9
45°	1064.4	1084.3	1102.3	1130.7	1103.9
47.5°	997.0	1006.2	1045.0	1052.6	1038.6
50°	935.8	939.0	978.1	968.6	959.4
52.5°	858.9	872.5	894.5	892.6	881.8
55°	795.7	790.3	811.1	805.6	805.4
57.5°	719.7	728.9	746.0	737.2	723.2
60°	648.6	648.8	655.0	645.1	643.3
62.5°	569.4	572.2	573.5	561.3	581.2
65°	488.8	482.3	501.3	482.1	485.3
67.5°	414.7	417.9	416.1	404.1	408.7
70°	339.4	343.6	340.6	326.9	331.1
72.5°	270.6	265.5	268.8	251.7	259.5
75°	203.4	199.3	203.0	188.6	195.1
77.5°	138.5	141.8	139.5	131.8	136.2
80°	91.4	88.9	88.9	84.5	85.4
82.5°	53.3	50.8	50.1	48.7	50.8
85°	24.9	24.2	24.7	24.0	23.1
87.5°	9.0	9.2	9.2	8.8	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)