

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: P590561

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-81-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590561
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-LD4-3LO-40-UNV-81-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

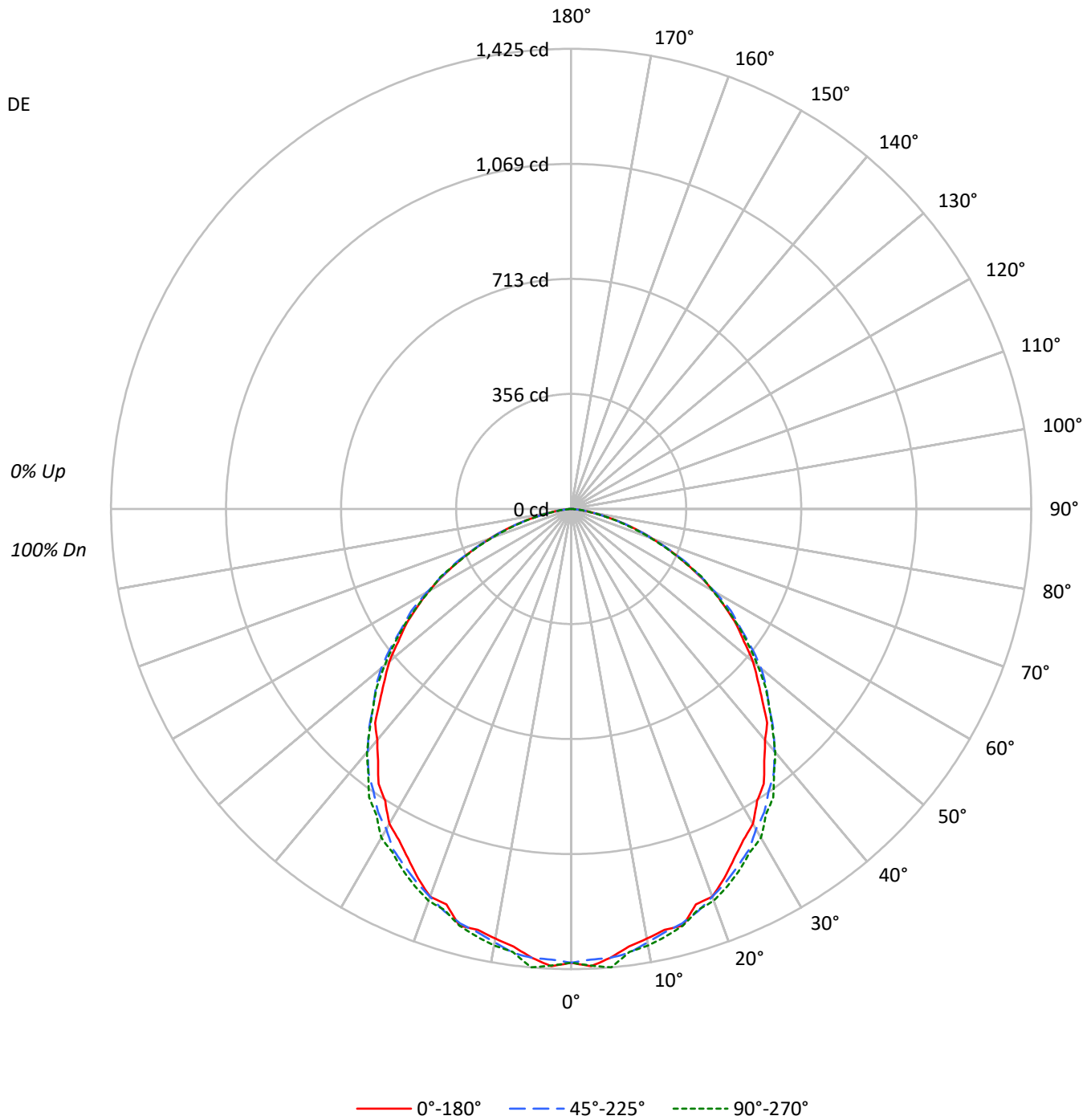
Lumens per Lamp: N/A
Luminaire Lumens: 3541.0 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 35.1
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°	3781	3781	3781
5°	3768	3770	3849
10°	3692	3724	3750
15°	3721	3701	3722
20°	3658	3658	3697
25°	3546	3623	3663
30°	3497	3558	3653
35°	3415	3504	3583
40°	3282	3440	3455
45°	3183	3296	3301
50°	3078	3217	3155
55°	2933	2990	2968
60°	2743	2770	2720
65°	2445	2507	2428
70°	2098	2105	2046
75°	1661	1658	1594
80°	1113	1082	1040
85°	605	599	559

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3381 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.2	3.7
10°-20°	374.6	10.6
20°-30°	561.2	15.8
30°-40°	665.1	18.8
40°-50°	666.3	18.8
50°-60°	565.6	16.0
60°-70°	381.3	10.8
70°-80°	167.6	4.7
80°-90°	27.2	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°	1067.9	30.2
0°-40°	1733.0	48.9
0°-60°	2964.9	83.7
0°-90°	3541.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3541.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1405	1405	1405	1405	1405	
5°	1395	1392	1396	1391	1425	132
15°	1336	1320	1328	1335	1336	372
25°	1194	1201	1220	1236	1234	552
35°	1039	1042	1067	1091	1091	645
45°	836	852	866	888	867	647
55°	625	621	637	633	633	556
65°	384	379	394	379	381	382
75°	160	157	160	148	153	171
85°	20	19	19	19	18	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1405.0	1405.0	1405.0	1405.0	1405.0
2.5°	1417.1	1406.4	1396.5	1408.1	1415.1
5°	1395.0	1391.7	1395.5	1391.4	1424.9
7.5°	1366.3	1378.9	1386.1	1381.6	1383.6
10°	1351.1	1346.7	1362.9	1374.1	1372.5
12.5°	1334.8	1341.3	1342.2	1354.4	1355.5
15°	1335.7	1320.3	1328.4	1335.3	1335.9
17.5°	1283.8	1300.5	1306.1	1321.9	1302.3
20°	1277.5	1265.3	1277.5	1293.6	1291.1
22.5°	1238.4	1224.8	1251.0	1265.3	1264.4
25°	1194.2	1200.7	1220.3	1236.3	1233.7
27.5°	1155.4	1163.0	1190.9	1212.9	1198.7
30°	1125.4	1121.6	1145.2	1164.8	1175.7
32.5°	1071.9	1085.7	1113.3	1132.7	1122.4
35°	1039.4	1042.5	1066.7	1091.3	1090.6
37.5°	982.7	997.0	1030.9	1037.8	1031.5
40°	934.2	948.6	979.2	986.7	983.6
42.5°	898.5	901.0	927.3	935.9	922.3
45°	836.3	851.9	866.0	888.3	867.3
47.5°	783.3	790.6	821.0	827.0	816.0
50°	735.2	737.8	768.4	761.0	753.7
52.5°	674.8	685.5	702.8	701.3	692.8
55°	625.1	620.9	637.3	632.9	632.7
57.5°	565.4	572.7	586.1	579.2	568.2
60°	509.6	509.7	514.6	506.8	505.4
62.5°	447.3	449.5	450.6	441.0	456.6
65°	384.0	379.0	393.8	378.8	381.3
67.5°	325.8	328.3	326.9	317.5	321.1
70°	266.7	269.9	267.6	256.9	260.1
72.5°	212.6	208.6	211.2	197.7	203.9
75°	159.8	156.6	159.5	148.2	153.3
77.5°	108.8	111.4	109.6	103.6	107.0
80°	71.8	69.8	69.8	66.4	67.1
82.5°	41.9	39.9	39.4	38.3	39.9
85°	19.6	19.0	19.4	18.9	18.1
87.5°	7.1	7.3	7.3	6.9	6.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)