

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: P590340

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590340
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-LD4-2STD-35-UNV-81-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 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: 3543.0 lumens
Efficiency: N/A
Efficacy: 106.4 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

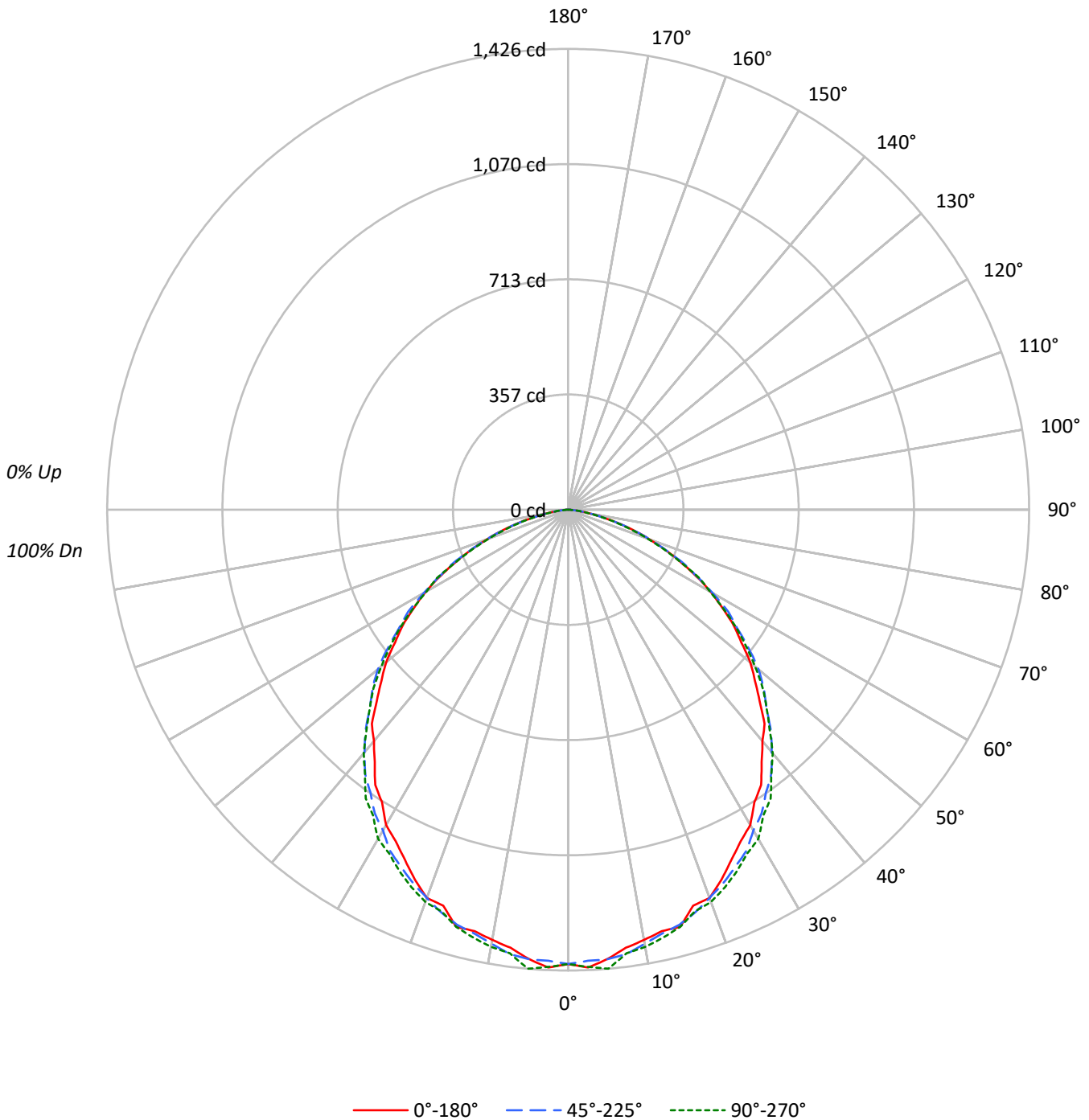
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	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																												
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°	3783	3783	3783
5°	3770	3772	3851
10°	3694	3726	3753
15°	3723	3703	3724
20°	3660	3660	3699
25°	3548	3625	3665
30°	3499	3561	3655
35°	3416	3506	3585
40°	3284	3442	3457
45°	3184	3298	3303
50°	3080	3219	3157
55°	2935	2991	2970
60°	2744	2771	2722
65°	2447	2509	2429
70°	2099	2106	2048
75°	1663	1658	1595
80°	1114	1083	1041
85°	605	599	562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3382 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.2	3.7
10°-20°	374.8	10.6
20°-30°	561.5	15.8
30°-40°	665.5	18.8
40°-50°	666.7	18.8
50°-60°	565.9	16.0
60°-70°	381.5	10.8
70°-80°	167.6	4.7
80°-90°	27.3	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°	1068.5	30.2
0°-40°	1733.9	48.9
0°-60°	2966.6	83.7
0°-90°	3543.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3543.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1406	1406	1406	1406	1406	
5°	1396	1392	1396	1392	1426	132
15°	1336	1321	1329	1336	1337	372
25°	1195	1201	1221	1237	1234	552
35°	1040	1043	1067	1092	1091	646
45°	837	852	866	889	868	647
55°	626	621	638	633	633	556
65°	384	379	394	379	382	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°	1405.8	1405.8	1405.8	1405.8	1405.8
2.5°	1417.9	1407.2	1397.2	1408.9	1415.9
5°	1395.8	1392.5	1396.3	1392.2	1425.7
7.5°	1367.1	1379.6	1386.9	1382.4	1384.4
10°	1351.9	1347.5	1363.7	1374.9	1373.3
12.5°	1335.5	1342.1	1343.0	1355.1	1356.2
15°	1336.4	1321.0	1329.2	1336.1	1336.6
17.5°	1284.5	1301.2	1306.9	1322.6	1303.0
20°	1278.2	1266.0	1278.2	1294.3	1291.8
22.5°	1239.1	1225.5	1251.7	1266.0	1265.1
25°	1194.9	1201.4	1221.0	1237.0	1234.4
27.5°	1156.0	1163.6	1191.6	1213.6	1199.4
30°	1126.1	1122.3	1145.9	1165.5	1176.3
32.5°	1072.5	1086.3	1113.9	1133.3	1123.0
35°	1040.0	1043.1	1067.3	1091.9	1091.2
37.5°	983.2	997.6	1031.5	1038.4	1032.0
40°	934.8	949.1	979.8	987.2	984.1
42.5°	899.0	901.5	927.9	936.4	922.8
45°	836.7	852.4	866.5	888.8	867.8
47.5°	783.7	791.0	821.5	827.5	816.4
50°	735.6	738.2	768.9	761.4	754.2
52.5°	675.2	685.9	703.2	701.7	693.2
55°	625.5	621.3	637.6	633.3	633.1
57.5°	565.8	573.0	586.4	579.6	568.5
60°	509.9	510.0	514.9	507.1	505.7
62.5°	447.6	449.8	450.9	441.2	456.9
65°	384.3	379.2	394.1	379.0	381.5
67.5°	326.0	328.5	327.1	317.6	321.3
70°	266.8	270.1	267.7	257.0	260.3
72.5°	212.7	208.7	211.3	197.8	204.0
75°	159.9	156.6	159.5	148.3	153.4
77.5°	108.9	111.4	109.6	103.6	107.1
80°	71.9	69.9	69.9	66.4	67.2
82.5°	41.9	39.9	39.4	38.3	39.9
85°	19.6	19.1	19.4	18.9	18.2
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)