

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: P561057

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561057
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-LD4-1LO-40-UNV-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2510.0 lumens
Efficiency: N/A
Efficacy: 107.3 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

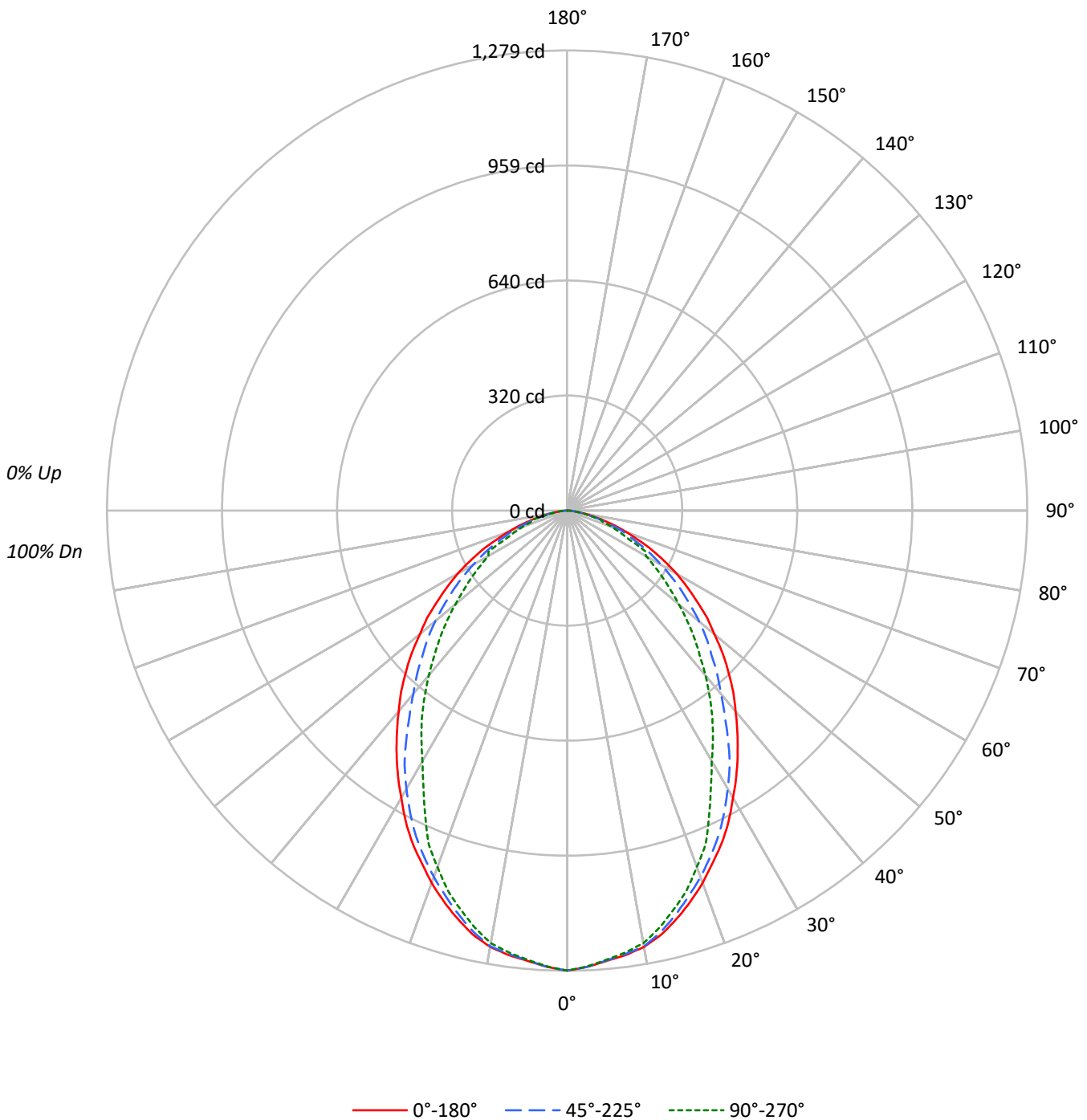
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561057

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561057

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD

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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3441	3441	3441
5°	3394	3390	3386
10°	3365	3360	3336
15°	3274	3241	3195
20°	3153	3103	3018
25°	3024	2958	2774
30°	2866	2774	2499
35°	2714	2564	2311
40°	2560	2336	2103
45°	2413	2160	1901
50°	2234	2005	1696
55°	2067	1817	1519
60°	1893	1623	1361
65°	1666	1421	1205
70°	1372	1245	1024
75°	1091	952	999
80°	733	687	642
85°	457	546	639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2413 cd/sqm



TEST NUMBER: P561057

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.0	4.7
10°-20°	326.6	13.0
20°-30°	452.2	18.0
30°-40°	482.2	19.2
40°-50°	439.9	17.5
50°-60°	344.6	13.7
60°-70°	224.6	8.9
70°-80°	99.5	4.0
80°-90°	21.4	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°	897.8	35.8
0°-40°	1380.0	55.0
0°-60°	2164.5	86.2
0°-90°	2510.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2510.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1279	1279	1279	1279	1279	
5°	1256	1255	1255	1253	1253	119
15°	1175	1175	1163	1151	1147	330
25°	1018	1012	996	961	934	468
35°	826	820	780	721	704	517
45°	634	621	568	520	500	488
55°	440	427	387	341	324	395
65°	262	247	223	228	189	258
75°	105	98	92	87	96	112
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



TEST NUMBER: P561057

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-93-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1278.6	1278.6	1278.6	1278.6	1278.6
2.5°	1269.7	1269.7	1269.7	1268.2	1268.2
5°	1256.4	1254.9	1254.9	1253.4	1253.4
7.5°	1246.0	1244.6	1243.1	1241.6	1238.7
10°	1231.3	1231.3	1229.8	1222.4	1220.9
12.5°	1207.6	1206.1	1200.2	1189.9	1186.9
15°	1175.1	1175.1	1163.3	1151.4	1147.0
17.5°	1139.6	1138.1	1123.4	1111.5	1105.6
20°	1101.2	1098.2	1083.5	1064.2	1053.9
22.5°	1058.3	1058.3	1040.6	1015.5	1005.1
25°	1018.4	1012.5	996.2	960.8	934.2
27.5°	972.6	963.7	946.0	895.7	864.7
30°	922.3	917.9	892.8	827.7	804.1
32.5°	875.0	867.6	841.0	773.0	753.8
35°	826.3	820.3	780.4	721.3	703.6
37.5°	777.5	770.1	719.8	672.5	650.4
40°	728.7	719.8	665.1	622.3	598.6
42.5°	682.9	671.1	617.8	572.0	545.4
45°	634.1	620.8	567.6	520.3	499.6
47.5°	585.3	573.5	524.7	475.9	452.3
50°	533.6	523.2	478.9	430.1	405.0
52.5°	490.7	474.5	431.6	382.8	362.1
55°	440.5	427.2	387.3	341.4	323.7
57.5°	394.7	381.4	344.4	301.5	286.8
60°	351.8	332.6	301.5	264.6	252.8
62.5°	304.5	289.7	263.1	232.1	246.8
65°	261.6	246.8	223.2	227.6	189.2
67.5°	214.3	206.9	186.2	165.5	159.6
70°	174.4	165.5	158.2	136.0	130.1
72.5°	138.9	130.1	119.7	107.9	103.5
75°	104.9	97.6	91.6	87.2	96.1
77.5°	72.4	69.5	65.0	60.6	59.1
80°	47.3	45.8	44.3	42.9	41.4
82.5°	28.1	28.1	28.1	28.1	28.1
85°	14.8	16.3	17.7	19.2	20.7
87.5°	8.9	8.9	10.3	11.8	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)