

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: P561202

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561202
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-LD4-1STD-40-UNV-80-85-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2763.0 lumens
Efficiency: N/A
Efficacy: 83.0 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

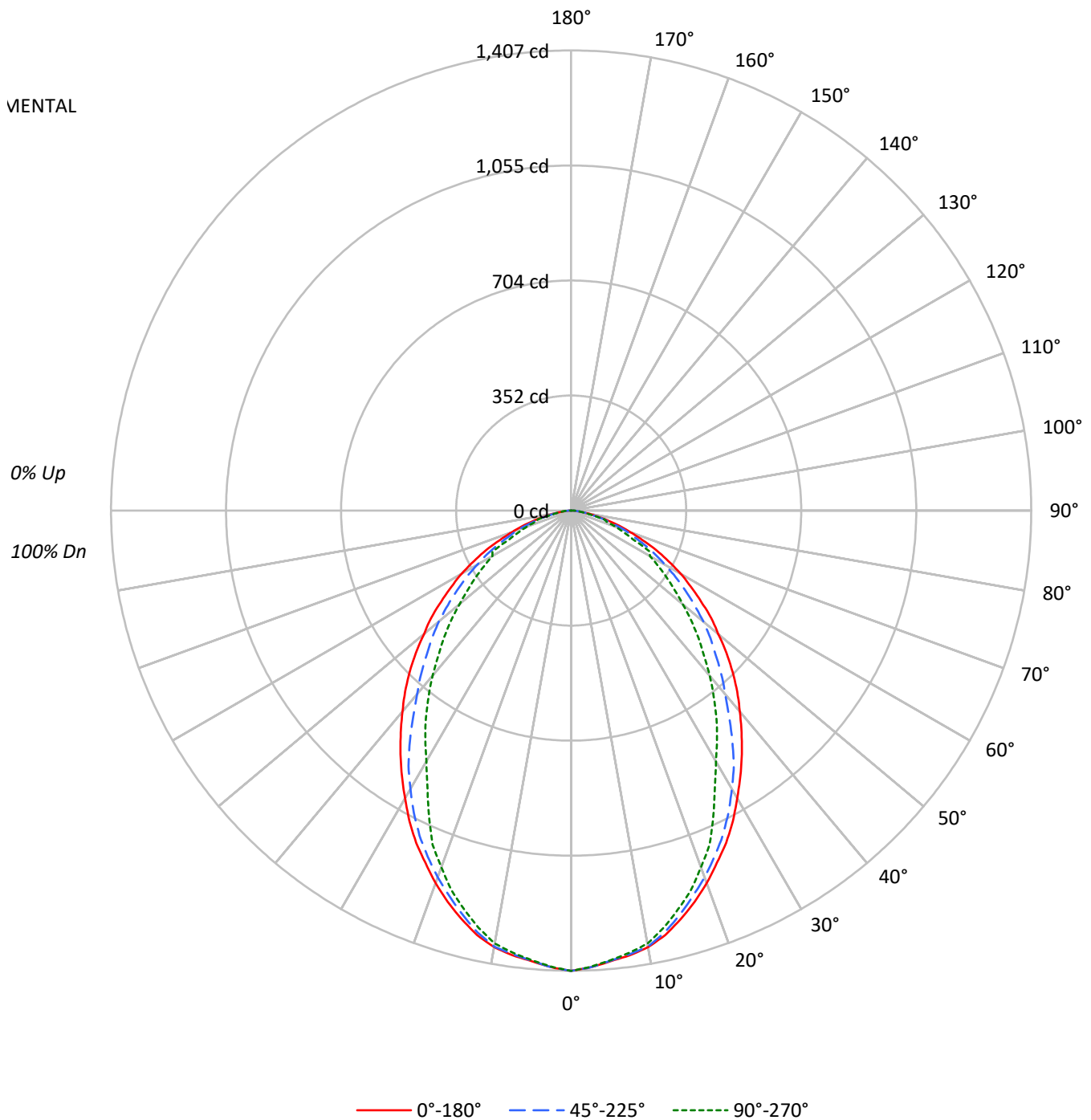
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561202

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-80-85-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561202

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-80-85-EDD-90

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3787	3787	3787
5°	3736	3732	3727
10°	3704	3699	3672
15°	3604	3567	3517
20°	3471	3416	3322
25°	3329	3256	3053
30°	3155	3054	2750
35°	2988	2822	2544
40°	2818	2572	2315
45°	2656	2378	2093
50°	2459	2207	1866
55°	2275	2000	1672
60°	2084	1786	1497
65°	1834	1564	1326
70°	1511	1370	1127
75°	1201	1049	1100
80°	807	756	707
85°	503	602	704

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2656 cd/sqm



TEST NUMBER: P561202

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-80-85-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	4.7
10°-20°	359.6	13.0
20°-30°	497.8	18.0
30°-40°	530.8	19.2
40°-50°	484.2	17.5
50°-60°	379.3	13.7
60°-70°	247.2	8.9
70°-80°	109.5	4.0
80°-90°	23.5	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°	988.3	35.8
0°-40°	1519.1	55.0
0°-60°	2382.7	86.2
0°-90°	2763.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1383	1381	1381	1380	1380	131
15°	1294	1294	1280	1268	1263	364
25°	1121	1115	1097	1058	1028	515
35°	910	903	859	794	774	569
45°	698	683	625	573	550	538
55°	485	470	426	376	356	435
65°	288	272	246	251	208	284
75°	116	107	101	96	106	124
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



TEST NUMBER: P561202

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-80-85-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1407.4	1407.4	1407.4	1407.4	1407.4
2.5°	1397.7	1397.7	1397.7	1396.0	1396.0
5°	1383.0	1381.4	1381.4	1379.8	1379.8
7.5°	1371.6	1370.0	1368.4	1366.8	1363.5
10°	1355.4	1355.4	1353.7	1345.6	1344.0
12.5°	1329.3	1327.7	1321.2	1309.8	1306.6
15°	1293.5	1293.5	1280.5	1267.5	1262.6
17.5°	1254.5	1252.9	1236.6	1223.6	1217.1
20°	1212.2	1208.9	1192.7	1171.5	1160.1
22.5°	1165.0	1165.0	1145.5	1117.8	1106.4
25°	1121.1	1114.6	1096.7	1057.6	1028.3
27.5°	1070.6	1060.9	1041.3	986.0	951.8
30°	1015.3	1010.4	982.8	911.2	885.1
32.5°	963.2	955.1	925.8	851.0	829.8
35°	909.5	903.0	859.1	794.0	774.5
37.5°	855.9	847.7	792.4	740.3	715.9
40°	802.2	792.4	732.2	685.0	659.0
42.5°	751.7	738.7	680.1	629.7	600.4
45°	698.0	683.4	624.8	572.7	550.0
47.5°	644.3	631.3	577.6	523.9	497.9
50°	587.4	576.0	527.2	473.5	445.8
52.5°	540.2	522.3	475.1	421.4	398.6
55°	484.9	470.2	426.3	375.9	356.3
57.5°	434.4	419.8	379.1	331.9	315.7
60°	387.2	366.1	331.9	291.2	278.2
62.5°	335.2	318.9	289.6	255.5	271.7
65°	288.0	271.7	245.7	250.6	208.3
67.5°	235.9	227.8	205.0	182.2	175.7
70°	192.0	182.2	174.1	149.7	143.2
72.5°	152.9	143.2	131.8	118.8	113.9
75°	115.5	107.4	100.9	96.0	105.8
77.5°	79.7	76.5	71.6	66.7	65.1
80°	52.1	50.4	48.8	47.2	45.6
82.5°	30.9	30.9	30.9	30.9	30.9
85°	16.3	17.9	19.5	21.2	22.8
87.5°	9.8	9.8	11.4	13.0	14.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)