

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: P561455

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561455
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-LD4-2HI-40-UNV-93-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7880.0 lumens
Efficiency: N/A
Efficacy: 91.2 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

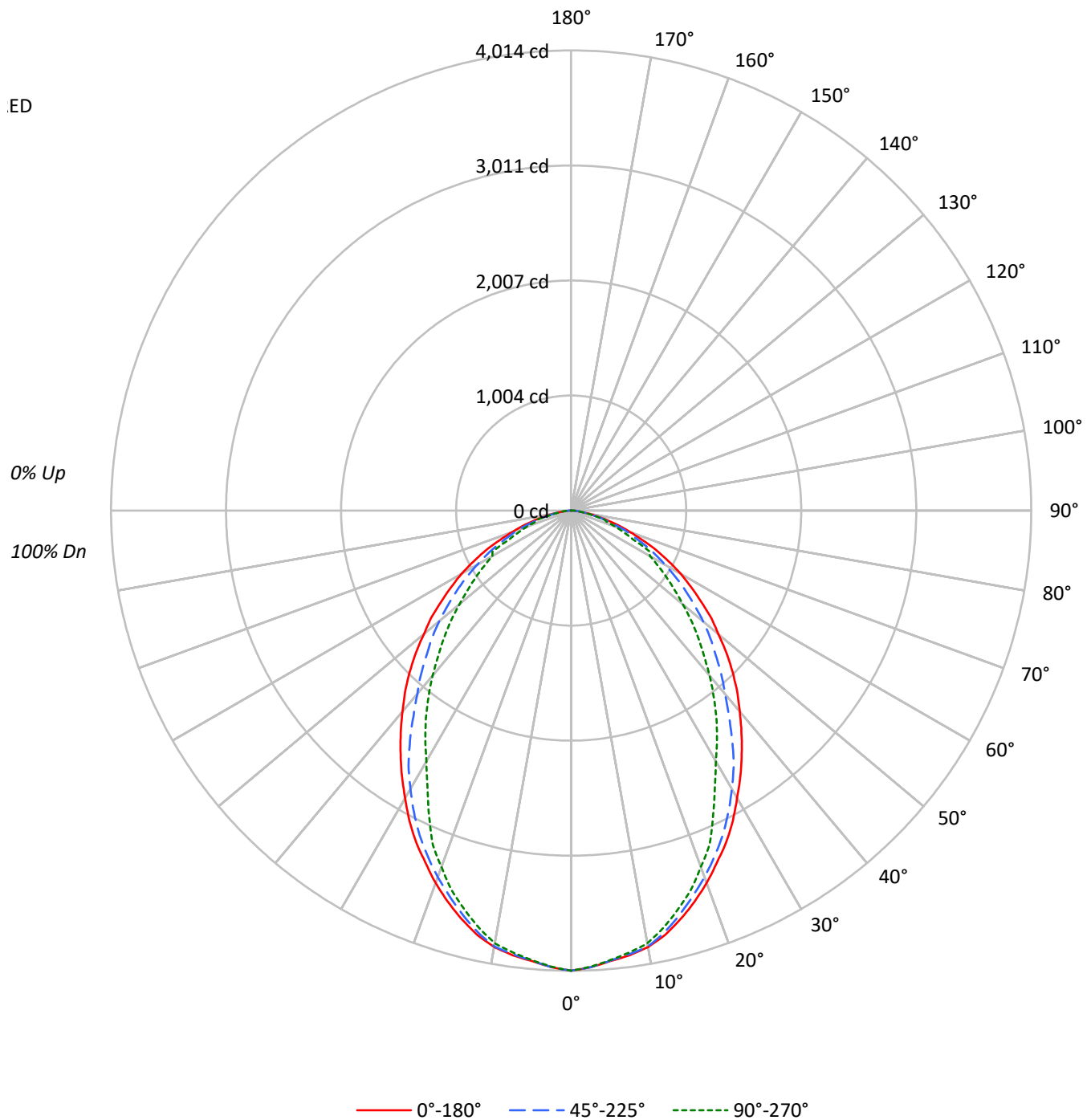
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561455

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-97-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561455

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-97-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			
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°	10802	10802	10802
5°	10655	10642	10630
10°	10562	10550	10474
15°	10277	10174	10032
20°	9900	9741	9475
25°	9493	9286	8708
30°	8997	8709	7844
35°	8521	8049	7256
40°	8036	7335	6602
45°	7576	6781	5969
50°	7013	6294	5323
55°	6488	5704	4768
60°	5944	5095	4271
65°	5230	4462	3782
70°	4308	3906	3213
75°	3426	2991	3136
80°	2301	2157	2013
85°	1433	1720	2007

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7576 cd/sqm



TEST NUMBER: P561455

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-97-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.6	4.7
10°-20°	1025.4	13.0
20°-30°	1419.7	18.0
30°-40°	1513.8	19.2
40°-50°	1381.0	17.5
50°-60°	1081.9	13.7
60°-70°	705.1	8.9
70°-80°	312.4	4.0
80°-90°	67.1	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°	2818.7	35.8
0°-40°	4332.5	55.0
0°-60°	6795.4	86.2
0°-90°	7880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4014	4014	4014	4014	4014	
5°	3944	3940	3940	3935	3935	374
15°	3689	3689	3652	3615	3601	1037
25°	3197	3179	3128	3016	2933	1468
35°	2594	2575	2450	2264	2209	1622
45°	1991	1949	1782	1633	1568	1533
55°	1383	1341	1216	1072	1016	1240
65°	821	775	701	715	594	809
75°	330	306	288	274	302	353
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



TEST NUMBER: P561455

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-93-97-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4014.0	4014.0	4014.0	4014.0	4014.0
2.5°	3986.1	3986.1	3986.1	3981.5	3981.5
5°	3944.4	3939.7	3939.7	3935.1	3935.1
7.5°	3911.9	3907.2	3902.6	3898.0	3888.7
10°	3865.5	3865.5	3860.8	3837.6	3833.0
12.5°	3791.2	3786.6	3768.0	3735.5	3726.3
15°	3689.1	3689.1	3652.0	3614.9	3601.0
17.5°	3577.8	3573.1	3526.7	3489.6	3471.0
20°	3457.1	3447.8	3401.4	3341.1	3308.6
22.5°	3322.5	3322.5	3266.9	3188.0	3155.5
25°	3197.3	3178.7	3127.6	3016.3	2932.7
27.5°	3053.4	3025.6	2969.9	2812.1	2714.6
30°	2895.6	2881.7	2802.8	2598.6	2524.4
32.5°	2747.1	2723.9	2640.4	2426.9	2366.6
35°	2594.0	2575.4	2450.1	2264.5	2208.8
37.5°	2440.9	2417.7	2259.9	2111.4	2041.8
40°	2287.7	2259.9	2088.2	1953.6	1879.4
42.5°	2143.9	2106.8	1939.7	1795.8	1712.3
45°	1990.7	1949.0	1781.9	1633.4	1568.5
47.5°	1837.6	1800.5	1647.4	1494.2	1420.0
50°	1675.2	1642.7	1503.5	1350.4	1271.5
52.5°	1540.6	1489.6	1355.0	1201.9	1136.9
55°	1382.8	1341.1	1215.8	1071.9	1016.3
57.5°	1239.0	1197.2	1081.2	946.6	900.2
60°	1104.4	1044.1	946.6	830.6	793.5
62.5°	955.9	909.5	826.0	728.5	775.0
65°	821.4	775.0	700.7	714.6	594.0
67.5°	672.9	649.7	584.7	519.7	501.2
70°	547.6	519.7	496.5	426.9	408.4
72.5°	436.2	408.4	375.9	338.8	324.8
75°	329.5	306.3	287.7	273.8	301.6
77.5°	227.4	218.1	204.2	190.3	185.6
80°	148.5	143.9	139.2	134.6	129.9
82.5°	88.2	88.2	88.2	88.2	88.2
85°	46.4	51.0	55.7	60.3	65.0
87.5°	27.8	27.8	32.5	37.1	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)