

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: P563140

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563140
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-24-4-LD4-3HI-40-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11219.0 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

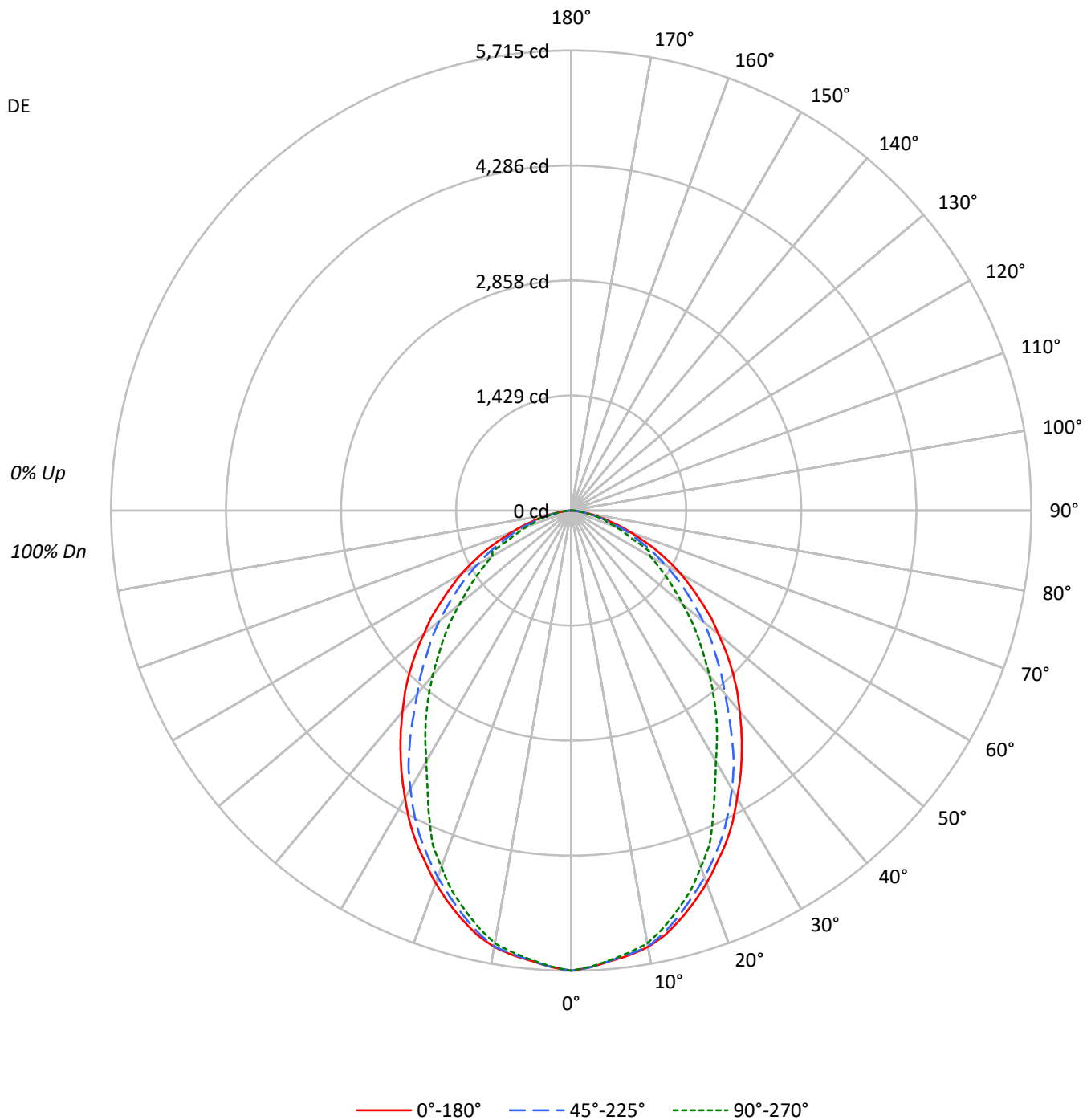
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563140

CATALOG NUMBER: FSR-24-4-LD4-3HI-40-UNV-81-86-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563140

CATALOG NUMBER: FSR-24-4-LD4-3HI-40-UNV-81-86-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°	7689	7689	7689
5°	7585	7576	7567
10°	7519	7510	7456
15°	7316	7243	7141
20°	7048	6934	6745
25°	6758	6611	6199
30°	6405	6200	5584
35°	6066	5730	5165
40°	5721	5222	4700
45°	5393	4827	4249
50°	4992	4481	3789
55°	4618	4061	3394
60°	4231	3627	3040
65°	3723	3176	2692
70°	3067	2781	2287
75°	2439	2129	2232
80°	1638	1536	1433
85°	1020	1224	1428

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5393 cd/sqm



TEST NUMBER: P563140

CATALOG NUMBER: FSR-24-4-LD4-3HI-40-UNV-81-86-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	532.0	4.7
10°-20°	1460.0	13.0
20°-30°	2021.2	18.0
30°-40°	2155.2	19.2
40°-50°	1966.2	17.5
50°-60°	1540.3	13.7
60°-70°	1003.9	8.9
70°-80°	444.8	4.0
80°-90°	95.5	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°	4013.1	35.8
0°-40°	6168.3	55.0
0°-60°	9674.8	86.2
0°-90°	11219.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11219.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5715	5715	5715	5715	5715	
5°	5616	5609	5609	5602	5602	533
15°	5252	5252	5200	5147	5127	1477
25°	4552	4526	4453	4294	4175	2090
35°	3693	3667	3488	3224	3145	2309
45°	2834	2775	2537	2326	2233	2183
55°	1969	1909	1731	1526	1447	1766
65°	1169	1103	998	1017	846	1152
75°	469	436	410	390	429	503
85°	66	73	79	86	92	92
90°	0	0	0	0	0	



TEST NUMBER: P563140

CATALOG NUMBER: FSR-24-4-LD4-3HI-40-UNV-81-86-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5714.8	5714.8	5714.8	5714.8	5714.8
2.5°	5675.2	5675.2	5675.2	5668.6	5668.6
5°	5615.7	5609.1	5609.1	5602.5	5602.5
7.5°	5569.5	5562.9	5556.2	5549.6	5536.4
10°	5503.4	5503.4	5496.8	5463.8	5457.1
12.5°	5397.7	5391.1	5364.7	5318.4	5305.2
15°	5252.3	5252.3	5199.5	5146.6	5126.8
17.5°	5093.8	5087.2	5021.1	4968.2	4941.8
20°	4922.0	4908.8	4842.7	4756.8	4710.6
22.5°	4730.4	4730.4	4651.1	4538.8	4492.6
25°	4552.0	4525.6	4452.9	4294.4	4175.4
27.5°	4347.2	4307.6	4228.3	4003.7	3864.9
30°	4122.6	4102.8	3990.5	3699.8	3594.1
32.5°	3911.2	3878.1	3759.2	3455.3	3369.4
35°	3693.2	3666.7	3488.3	3224.1	3144.8
37.5°	3475.1	3442.1	3217.5	3006.1	2907.0
40°	3257.1	3217.5	2973.0	2781.4	2675.7
42.5°	3052.3	2999.4	2761.6	2556.8	2437.9
45°	2834.3	2774.8	2537.0	2325.6	2233.1
47.5°	2616.3	2563.4	2345.4	2127.4	2021.7
50°	2385.0	2338.8	2140.6	1922.6	1810.2
52.5°	2193.4	2120.8	1929.2	1711.1	1618.6
55°	1968.8	1909.3	1731.0	1526.2	1446.9
57.5°	1764.0	1704.5	1539.4	1347.8	1281.7
60°	1572.4	1486.5	1347.8	1182.6	1129.7
62.5°	1361.0	1294.9	1176.0	1037.3	1103.3
65°	1169.4	1103.3	997.6	1017.4	845.7
67.5°	958.0	924.9	832.4	740.0	713.5
70°	779.6	740.0	706.9	607.8	581.4
72.5°	621.0	581.4	535.1	482.3	462.5
75°	469.1	436.0	409.6	389.8	429.4
77.5°	323.7	310.5	290.7	270.9	264.3
80°	211.4	204.8	198.2	191.6	185.0
82.5°	125.5	125.5	125.5	125.5	125.5
85°	66.1	72.7	79.3	85.9	92.5
87.5°	39.6	39.6	46.2	52.9	59.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)