

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: P561353

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561353
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-35-UNV-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6536.0 lumens
Efficiency: N/A
Efficacy: 75.6 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

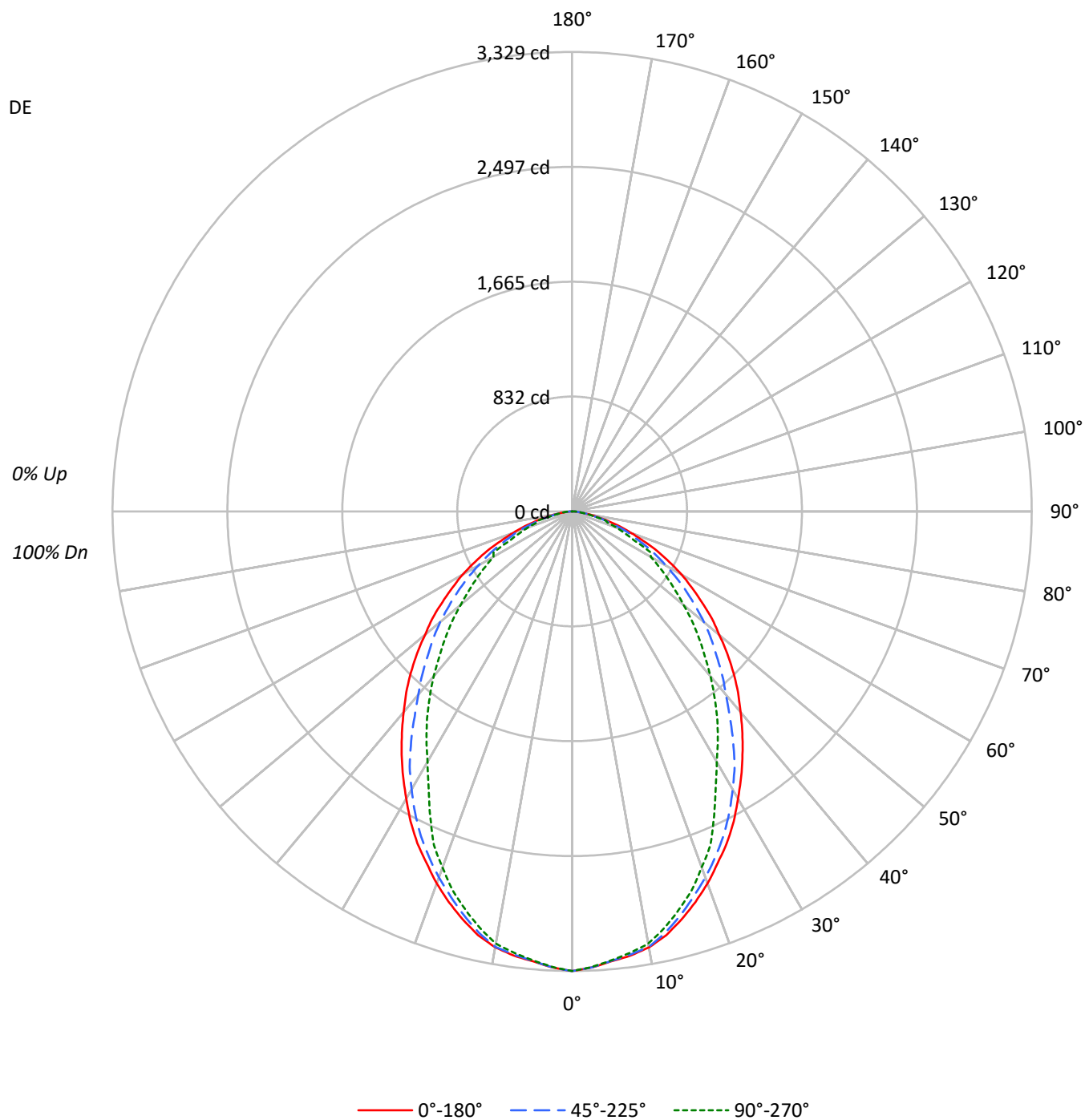
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561353

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-81-88-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P561353

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-81-88-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20
RC	80					70					50					30					10
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	110	106	102	99		108	104	100	97		100	97	94		96	94	91		92	90	89
2	101	94	88	83		99	92	87	82		89	84	80		86	82	78		83	79	77
3	93	84	77	71		91	82	76	70		79	74	69		77	72	68		74	70	67
4	86	75	67	61		84	74	66	61		72	65	60		69	64	59		67	62	58
5	80	68	60	54		78	67	59	53		65	58	53		63	57	52		61	56	52
6	74	62	53	48		72	61	53	47		59	52	47		57	51	47		56	50	46
7	69	56	48	43		67	56	48	42		54	47	42		53	46	42		51	46	42
8	65	52	44	38		63	51	44	38		50	43	38		49	42	38		48	42	38
9	61	48	40	35		59	47	40	35		46	39	35		45	39	34		44	38	34
10	57	44	37	32		56	44	37	32		43	36	32		42	36	32		41	36	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8959	8959	8959
5°	8837	8827	8817
10°	8761	8750	8687
15°	8525	8439	8321
20°	8212	8079	7859
25°	7874	7703	7222
30°	7463	7224	6506
35°	7068	6676	6019
40°	6666	6084	5476
45°	6284	5625	4951
50°	5817	5221	4415
55°	5381	4731	3955
60°	4930	4226	3542
65°	4338	3701	3137
70°	3574	3240	2665
75°	2842	2481	2601
80°	1909	1790	1671
85°	1189	1426	1664

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6284 cd/sqm

TEST NUMBER: P561353

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-81-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.9	4.7
10°-20°	850.5	13.0
20°-30°	1177.5	18.0
30°-40°	1255.6	19.2
40°-50°	1145.5	17.5
50°-60°	897.4	13.7
60°-70°	584.9	8.9
70°-80°	259.1	4.0
80°-90°	55.6	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°	2338.0	35.8
0°-40°	3593.6	55.0
0°-60°	5636.4	86.2
0°-90°	6536.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6536.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3329	3329	3329	3329	3329	
5°	3272	3268	3268	3264	3264	311
15°	3060	3060	3029	2998	2987	860
25°	2652	2636	2594	2502	2432	1218
35°	2152	2136	2032	1878	1832	1345
45°	1651	1617	1478	1355	1301	1272
55°	1147	1112	1008	889	843	1029
65°	681	643	581	593	493	671
75°	273	254	239	227	250	293
85°	38	42	46	50	54	53
90°	0	0	0	0	0	

TEST NUMBER: P561353

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-81-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3329.4	3329.4	3329.4	3329.4	3329.4
2.5°	3306.3	3306.3	3306.3	3302.4	3302.4
5°	3271.6	3267.8	3267.8	3263.9	3263.9
7.5°	3244.7	3240.8	3237.0	3233.1	3225.4
10°	3206.2	3206.2	3202.3	3183.1	3179.2
12.5°	3144.6	3140.8	3125.4	3098.4	3090.7
15°	3059.9	3059.9	3029.1	2998.3	2986.8
17.5°	2967.5	2963.7	2925.2	2894.4	2879.0
20°	2867.5	2859.8	2821.3	2771.3	2744.3
22.5°	2755.9	2755.9	2709.7	2644.2	2617.3
25°	2651.9	2636.5	2594.2	2501.8	2432.5
27.5°	2532.6	2509.5	2463.3	2332.5	2251.6
30°	2401.8	2390.2	2324.8	2155.4	2093.8
32.5°	2278.6	2259.3	2190.1	2013.0	1963.0
35°	2151.6	2136.2	2032.3	1878.3	1832.1
37.5°	2024.6	2005.3	1874.4	1751.3	1693.5
40°	1897.5	1874.4	1732.0	1620.4	1558.8
42.5°	1778.2	1747.4	1608.9	1489.5	1420.3
45°	1651.2	1616.6	1478.0	1354.8	1300.9
47.5°	1524.2	1493.4	1366.4	1239.4	1177.8
50°	1389.5	1362.5	1247.1	1120.0	1054.6
52.5°	1277.9	1235.5	1123.9	996.9	943.0
55°	1147.0	1112.3	1008.4	889.1	842.9
57.5°	1027.7	993.0	896.8	785.2	746.7
60°	916.1	866.0	785.2	689.0	658.2
62.5°	792.9	754.4	685.1	604.3	642.8
65°	681.3	642.8	581.2	592.7	492.7
67.5°	558.1	538.9	485.0	431.1	415.7
70°	454.2	431.1	411.8	354.1	338.7
72.5°	361.8	338.7	311.8	281.0	269.4
75°	273.3	254.0	238.6	227.1	250.2
77.5°	188.6	180.9	169.4	157.8	154.0
80°	123.2	119.3	115.5	111.6	107.8
82.5°	73.1	73.1	73.1	73.1	73.1
85°	38.5	42.3	46.2	50.0	53.9
87.5°	23.1	23.1	26.9	30.8	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)