

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: P563431

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563431
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-LD4-3LO-50-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8436.0 lumens
Efficiency: N/A
Efficacy: 120.2 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

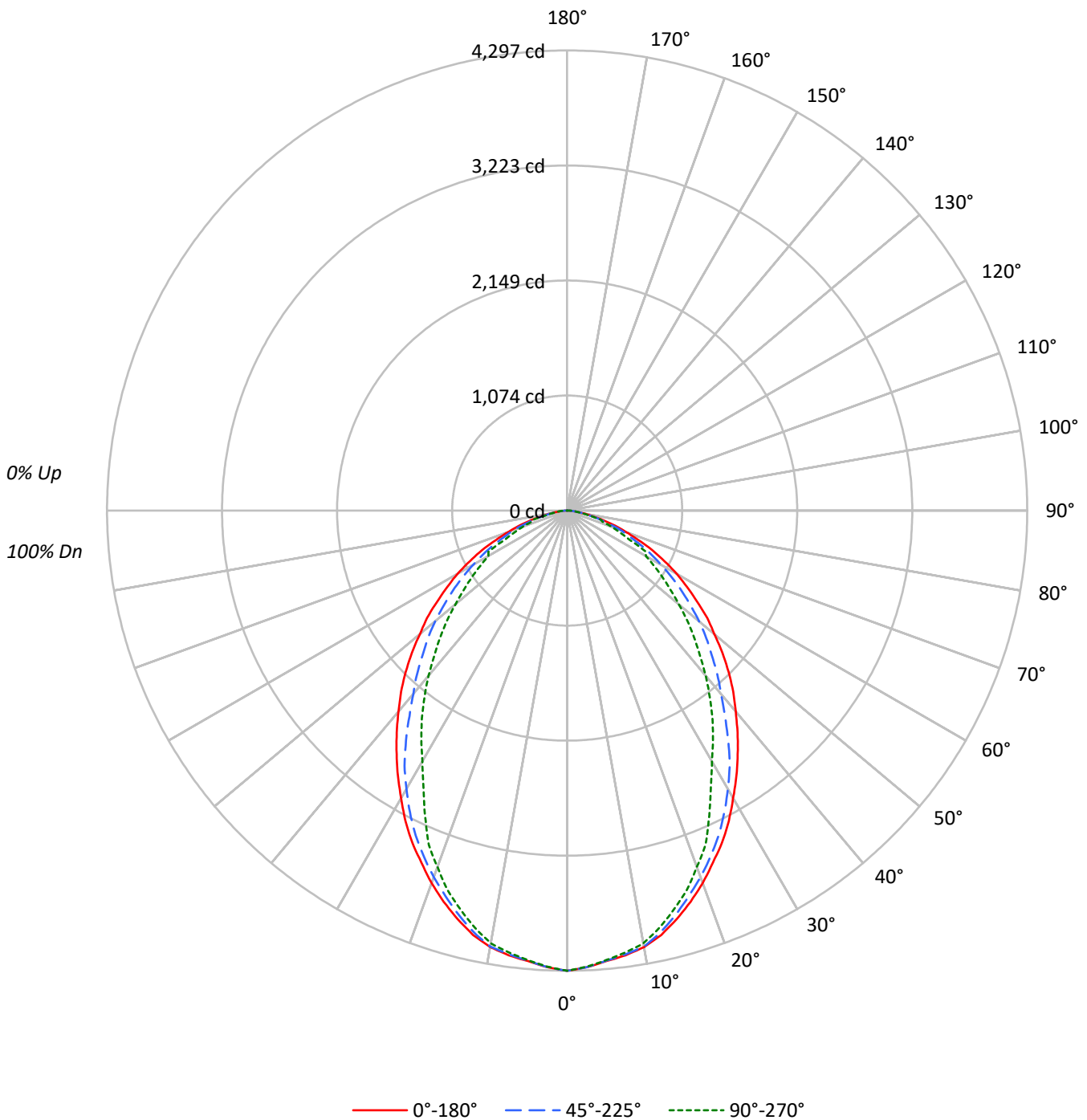
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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°	5782	5782	5782
5°	5703	5697	5690
10°	5654	5647	5606
15°	5501	5446	5370
20°	5299	5214	5072
25°	5081	4971	4661
30°	4816	4662	4199
35°	4561	4308	3884
40°	4302	3926	3534
45°	4055	3630	3195
50°	3754	3369	2849
55°	3473	3053	2552
60°	3182	2727	2286
65°	2799	2388	2025
70°	2306	2091	1720
75°	1834	1601	1679
80°	1232	1155	1078
85°	767	920	1073

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4055 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	400.0	4.7
10°-20°	1097.8	13.0
20°-30°	1519.8	18.0
30°-40°	1620.6	19.2
40°-50°	1478.4	17.5
50°-60°	1158.2	13.7
60°-70°	754.9	8.9
70°-80°	334.5	4.0
80°-90°	71.8	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°	3017.6	35.8
0°-40°	4638.2	55.0
0°-60°	7274.9	86.2
0°-90°	8436.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8436.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4297	4297	4297	4297	4297	
5°	4223	4218	4218	4213	4213	401
15°	3949	3949	3910	3870	3855	1110
25°	3423	3403	3348	3229	3140	1571
35°	2777	2757	2623	2424	2365	1736
45°	2131	2086	1908	1749	1679	1642
55°	1480	1436	1302	1148	1088	1328
65°	879	830	750	765	636	867
75°	353	328	308	293	323	378
85°	50	55	60	65	70	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4297.2	4297.2	4297.2	4297.2	4297.2
2.5°	4267.4	4267.4	4267.4	4262.4	4262.4
5°	4222.7	4217.7	4217.7	4212.7	4212.7
7.5°	4187.9	4182.9	4178.0	4173.0	4163.1
10°	4138.2	4138.2	4133.2	4108.4	4103.4
12.5°	4058.7	4053.8	4033.9	3999.1	3989.2
15°	3949.4	3949.4	3909.7	3870.0	3855.0
17.5°	3830.2	3825.2	3775.6	3735.8	3715.9
20°	3701.0	3691.1	3641.4	3576.8	3542.1
22.5°	3557.0	3557.0	3497.4	3412.9	3378.1
25°	3422.8	3403.0	3348.3	3229.1	3139.7
27.5°	3268.8	3239.0	3179.4	3010.5	2906.2
30°	3099.9	3085.0	3000.6	2782.0	2702.5
32.5°	2941.0	2916.1	2826.7	2598.2	2533.6
35°	2777.0	2757.2	2623.0	2424.3	2364.7
37.5°	2613.1	2588.2	2419.3	2260.4	2185.9
40°	2449.1	2419.3	2235.5	2091.5	2012.0
42.5°	2295.1	2255.4	2076.6	1922.6	1833.1
45°	2131.2	2086.5	1907.7	1748.7	1679.1
47.5°	1967.3	1927.5	1763.6	1599.6	1520.2
50°	1793.4	1758.6	1609.6	1445.6	1361.2
52.5°	1649.3	1594.7	1450.6	1286.7	1217.1
55°	1480.4	1435.7	1301.6	1147.6	1088.0
57.5°	1326.4	1281.7	1157.5	1013.4	963.8
60°	1182.3	1117.8	1013.4	889.2	849.5
62.5°	1023.4	973.7	884.3	780.0	829.6
65°	879.3	829.6	750.1	765.0	635.9
67.5°	720.3	695.5	625.9	556.4	536.5
70°	586.2	556.4	531.6	457.0	437.2
72.5°	467.0	437.2	402.4	362.7	347.7
75°	352.7	327.9	308.0	293.1	322.9
77.5°	243.4	233.5	218.6	203.7	198.7
80°	159.0	154.0	149.0	144.1	139.1
82.5°	94.4	94.4	94.4	94.4	94.4
85°	49.7	54.6	59.6	64.6	69.5
87.5°	29.8	29.8	34.8	39.7	44.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)