

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: P563944

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563944
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-LD4-4LO-40-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8369.0 lumens
Efficiency: N/A
Efficacy: 89.4 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

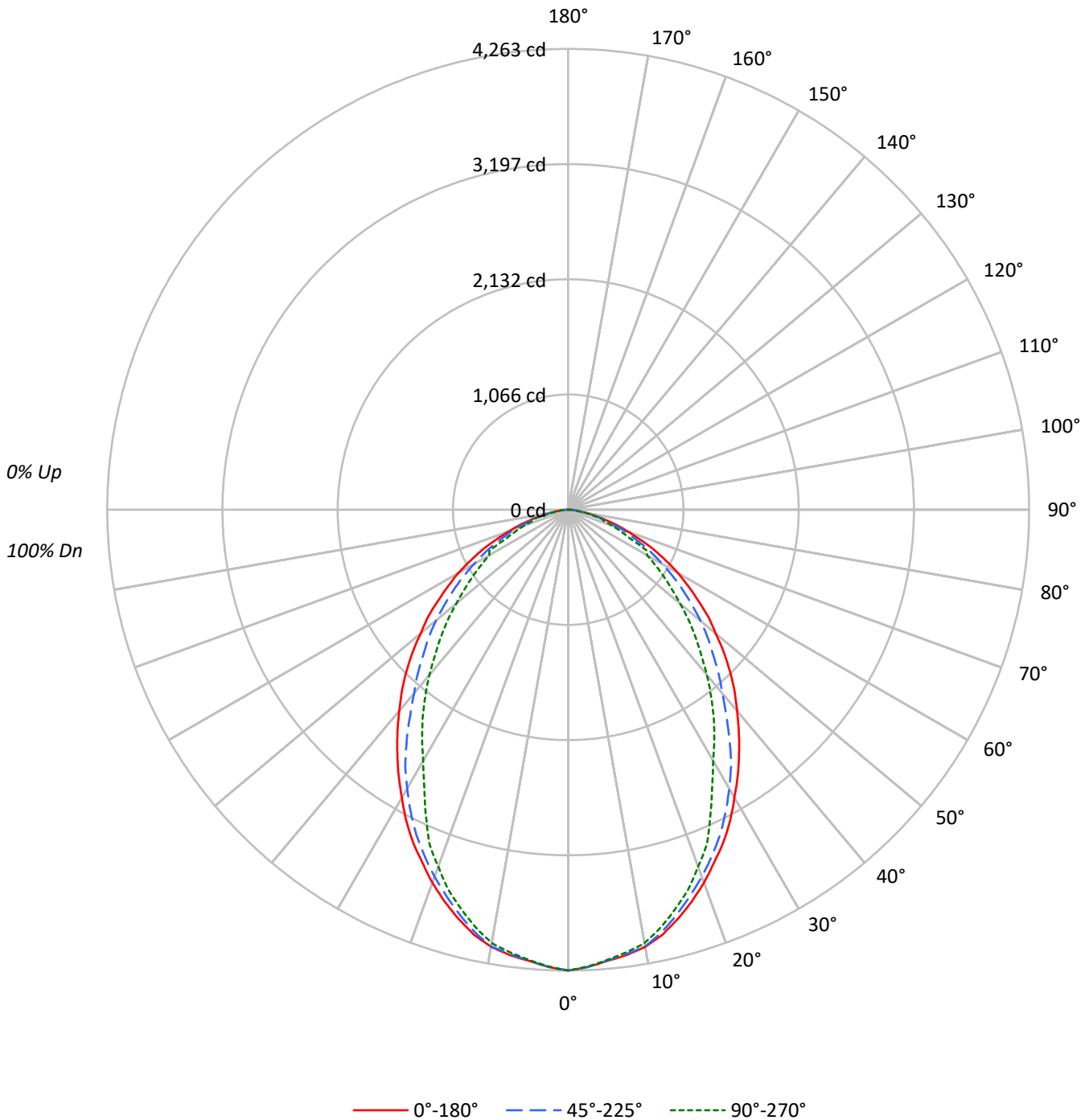
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5736	5736	5736
5°	5658	5651	5645
10°	5609	5602	5562
15°	5458	5403	5327
20°	5257	5173	5031
25°	5041	4931	4624
30°	4778	4625	4165
35°	4525	4274	3853
40°	4268	3895	3506
45°	4023	3601	3170
50°	3724	3342	2827
55°	3445	3029	2532
60°	3157	2706	2268
65°	2777	2369	2008
70°	2288	2074	1706
75°	1819	1589	1665
80°	1222	1146	1069
85°	761	912	1065

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4023 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	396.8	4.7
10°-20°	1089.1	13.0
20°-30°	1507.7	18.0
30°-40°	1607.7	19.2
40°-50°	1466.7	17.5
50°-60°	1149.0	13.7
60°-70°	748.9	8.9
70°-80°	331.8	4.0
80°-90°	71.2	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°	2993.7	35.8
0°-40°	4601.4	55.0
0°-60°	7217.1	86.2
0°-90°	8369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8369.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4263	4263	4263	4263	4263	
5°	4189	4184	4184	4179	4179	398
15°	3918	3918	3879	3839	3824	1101
25°	3396	3376	3322	3204	3115	1559
35°	2755	2735	2602	2405	2346	1722
45°	2114	2070	1892	1735	1666	1629
55°	1469	1424	1291	1138	1079	1317
65°	872	823	744	759	631	860
75°	350	325	306	291	320	375
85°	49	54	59	64	69	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4263.1	4263.1	4263.1	4263.1	4263.1
2.5°	4233.5	4233.5	4233.5	4228.6	4228.6
5°	4189.1	4184.2	4184.2	4179.3	4179.3
7.5°	4154.6	4149.7	4144.8	4139.8	4130.0
10°	4105.3	4105.3	4100.4	4075.8	4070.8
12.5°	4026.5	4021.6	4001.9	3967.4	3957.5
15°	3918.1	3918.1	3878.6	3839.2	3824.4
17.5°	3799.8	3794.9	3745.6	3706.1	3686.4
20°	3671.7	3661.8	3612.5	3548.4	3513.9
22.5°	3528.7	3528.7	3469.6	3385.8	3351.3
25°	3395.7	3375.9	3321.7	3203.5	3114.7
27.5°	3242.9	3213.3	3154.2	2986.6	2883.1
30°	3075.3	3060.5	2976.7	2759.9	2681.0
32.5°	2917.6	2893.0	2804.3	2577.5	2513.5
35°	2755.0	2735.3	2602.2	2405.1	2345.9
37.5°	2592.3	2567.7	2400.1	2242.4	2168.5
40°	2429.7	2400.1	2217.8	2074.9	1996.0
42.5°	2276.9	2237.5	2060.1	1907.3	1818.6
45°	2114.3	2069.9	1892.5	1734.8	1665.8
47.5°	1951.6	1912.2	1749.6	1586.9	1508.1
50°	1779.1	1744.6	1596.8	1434.2	1350.4
52.5°	1636.2	1582.0	1439.1	1276.5	1207.5
55°	1468.7	1424.3	1291.2	1138.5	1079.3
57.5°	1315.9	1271.5	1148.3	1005.4	956.1
60°	1173.0	1108.9	1005.4	882.2	842.8
62.5°	1015.2	966.0	877.3	773.8	823.0
65°	872.3	823.0	744.2	759.0	630.8
67.5°	714.6	690.0	621.0	552.0	532.3
70°	581.5	552.0	527.3	453.4	433.7
72.5°	463.3	433.7	399.2	359.8	345.0
75°	349.9	325.3	305.6	290.8	320.3
77.5°	241.5	231.6	216.8	202.1	197.1
80°	157.7	152.8	147.9	142.9	138.0
82.5°	93.6	93.6	93.6	93.6	93.6
85°	49.3	54.2	59.1	64.1	69.0
87.5°	29.6	29.6	34.5	39.4	44.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)