

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: P562080

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562080
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-LD4-1HI-40-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4070.0 lumens
Efficiency: N/A
Efficacy: 94.2 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

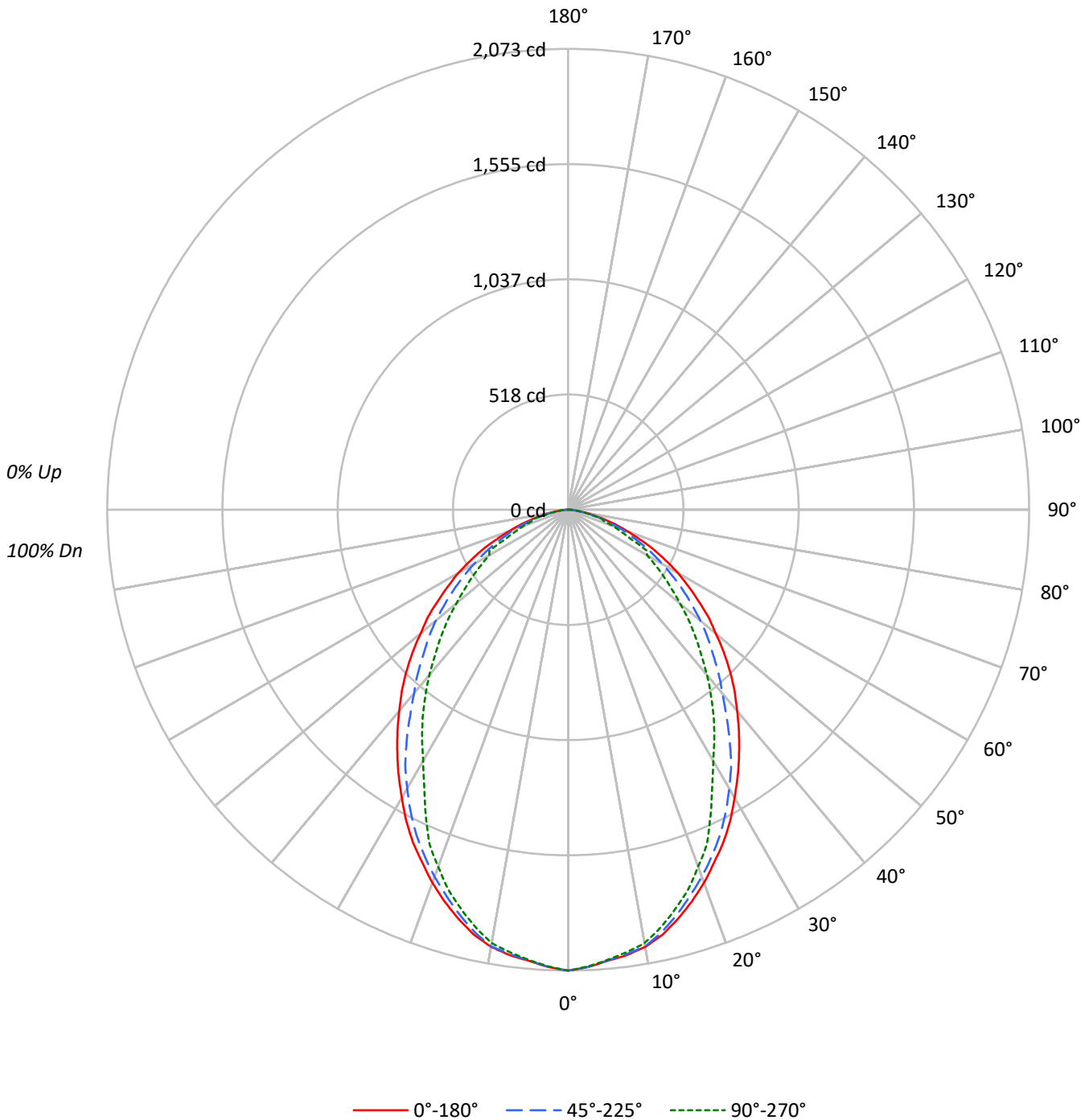
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2789	2789	2789
5°	2752	2748	2745
10°	2728	2724	2705
15°	2654	2628	2591
20°	2557	2515	2447
25°	2452	2398	2249
30°	2324	2249	2026
35°	2201	2079	1874
40°	2075	1894	1705
45°	1956	1751	1541
50°	1811	1626	1375
55°	1675	1473	1231
60°	1535	1316	1103
65°	1351	1152	977
70°	1113	1009	830
75°	885	773	810
80°	594	557	520
85°	371	445	519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1956 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.0	4.7
10°-20°	529.6	13.0
20°-30°	733.2	18.0
30°-40°	781.9	19.2
40°-50°	713.3	17.5
50°-60°	558.8	13.7
60°-70°	364.2	8.9
70°-80°	161.4	4.0
80°-90°	34.6	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°	1455.9	35.8
0°-40°	2237.7	55.0
0°-60°	3509.8	86.2
0°-90°	4070.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4070.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2073	2073	2073	2073	2073	
5°	2037	2035	2035	2032	2032	193
15°	1905	1905	1886	1867	1860	536
25°	1651	1642	1615	1558	1515	758
35°	1340	1330	1266	1170	1141	838
45°	1028	1007	920	844	810	792
55°	714	693	628	554	525	641
65°	424	400	362	369	307	418
75°	170	158	149	141	156	182
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2073.2	2073.2	2073.2	2073.2	2073.2
2.5°	2058.8	2058.8	2058.8	2056.4	2056.4
5°	2037.3	2034.9	2034.9	2032.5	2032.5
7.5°	2020.5	2018.1	2015.7	2013.3	2008.5
10°	1996.5	1996.5	1994.1	1982.1	1979.7
12.5°	1958.2	1955.8	1946.2	1929.4	1924.6
15°	1905.4	1905.4	1886.3	1867.1	1859.9
17.5°	1847.9	1845.5	1821.5	1802.4	1792.8
20°	1785.6	1780.8	1756.8	1725.7	1708.9
22.5°	1716.1	1716.1	1687.3	1646.6	1629.8
25°	1651.4	1641.8	1615.4	1557.9	1514.8
27.5°	1577.1	1562.7	1533.9	1452.4	1402.1
30°	1495.6	1488.4	1447.6	1342.2	1303.8
32.5°	1418.9	1406.9	1363.8	1253.5	1222.4
35°	1339.8	1330.2	1265.5	1169.6	1140.9
37.5°	1260.7	1248.7	1167.2	1090.5	1054.6
40°	1181.6	1167.2	1078.5	1009.0	970.7
42.5°	1107.3	1088.1	1001.8	927.5	884.4
45°	1028.2	1006.6	920.4	843.7	810.1
47.5°	949.1	929.9	850.9	771.8	733.4
50°	865.2	848.5	776.6	697.5	656.7
52.5°	795.7	769.4	699.9	620.8	587.2
55°	714.2	692.7	628.0	553.7	524.9
57.5°	639.9	618.4	558.4	488.9	465.0
60°	570.4	539.3	488.9	429.0	409.8
62.5°	493.7	469.8	426.6	376.3	400.3
65°	424.2	400.3	361.9	369.1	306.8
67.5°	347.5	335.5	302.0	268.4	258.9
70°	282.8	268.4	256.5	220.5	210.9
72.5°	225.3	210.9	194.1	175.0	167.8
75°	170.2	158.2	148.6	141.4	155.8
77.5°	117.4	112.6	105.5	98.3	95.9
80°	76.7	74.3	71.9	69.5	67.1
82.5°	45.5	45.5	45.5	45.5	45.5
85°	24.0	26.4	28.8	31.2	33.6
87.5°	14.4	14.4	16.8	19.2	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)