

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: P561993

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561993
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-35-UNV-81-88-EDD
Description: 2X4 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: 3840.0 lumens
Efficiency: N/A
Efficacy: 88.9 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

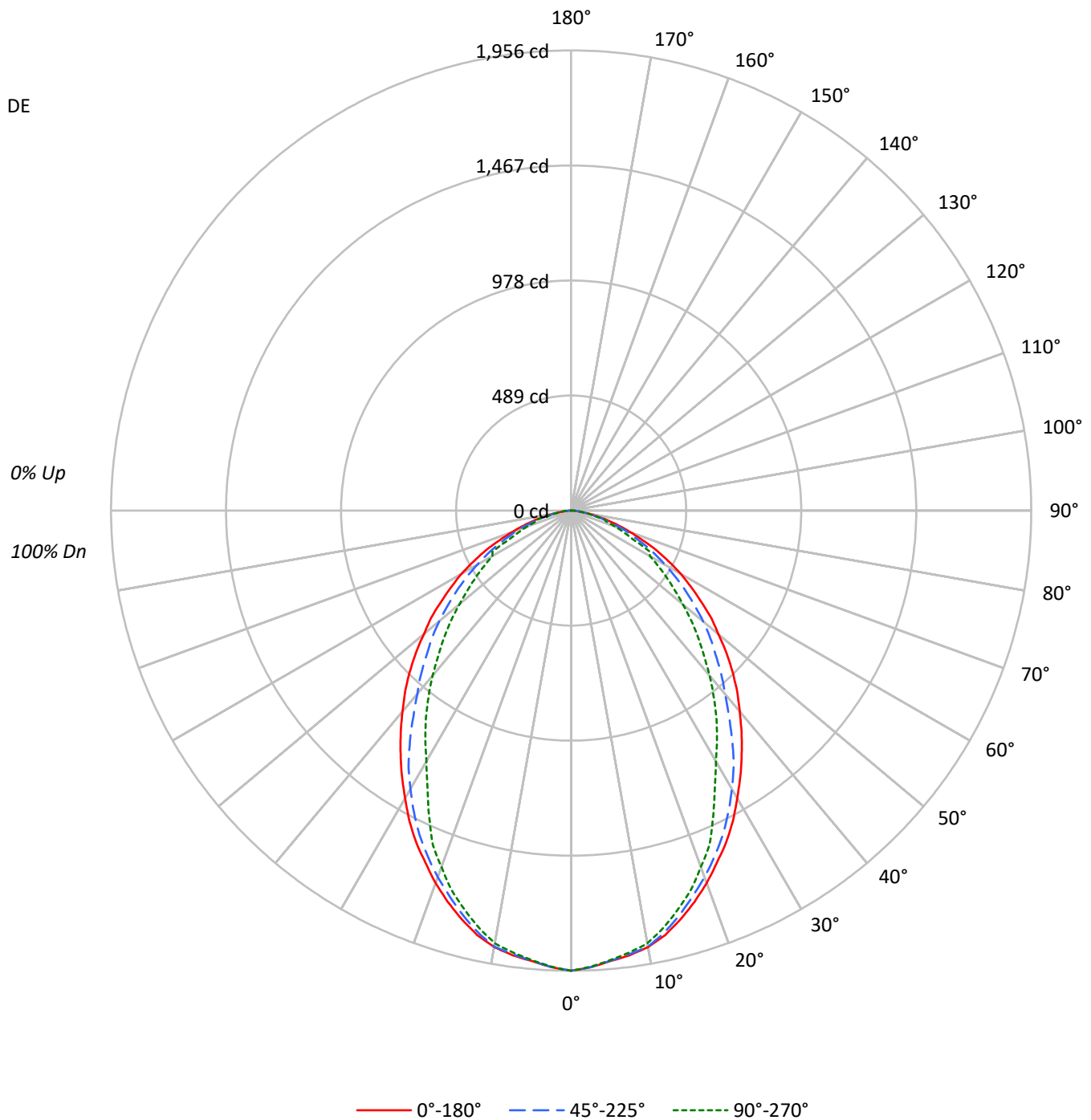
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2632	2632	2632
5°	2596	2593	2590
10°	2574	2570	2552
15°	2504	2479	2444
20°	2412	2373	2309
25°	2313	2263	2122
30°	2192	2122	1911
35°	2076	1961	1768
40°	1958	1787	1609
45°	1846	1652	1454
50°	1709	1534	1297
55°	1581	1390	1162
60°	1448	1241	1041
65°	1274	1087	921
70°	1050	952	783
75°	835	729	764
80°	561	525	490
85°	349	418	489

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1846 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.1	4.7
10°-20°	499.7	13.0
20°-30°	691.8	18.0
30°-40°	737.7	19.2
40°-50°	673.0	17.5
50°-60°	527.2	13.7
60°-70°	343.6	8.9
70°-80°	152.2	4.0
80°-90°	32.7	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°	1373.6	35.8
0°-40°	2111.3	55.0
0°-60°	3311.5	86.2
0°-90°	3840.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3840.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1956	1956	1956	1956	1956	
5°	1922	1920	1920	1918	1918	182
15°	1798	1798	1780	1762	1755	505
25°	1558	1549	1524	1470	1429	715
35°	1264	1255	1194	1104	1076	790
45°	970	950	868	796	764	747
55°	674	654	592	522	495	604
65°	400	378	342	348	289	394
75°	161	149	140	133	147	172
85°	23	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1956.0	1956.0	1956.0	1956.0	1956.0
2.5°	1942.5	1942.5	1942.5	1940.2	1940.2
5°	1922.1	1919.9	1919.9	1917.6	1917.6
7.5°	1906.3	1904.0	1901.8	1899.5	1895.0
10°	1883.7	1883.7	1881.4	1870.1	1867.9
12.5°	1847.5	1845.2	1836.2	1820.4	1815.8
15°	1797.8	1797.8	1779.7	1761.6	1754.8
17.5°	1743.5	1741.2	1718.6	1700.5	1691.5
20°	1684.7	1680.2	1657.6	1628.2	1612.3
22.5°	1619.1	1619.1	1592.0	1553.5	1537.7
25°	1558.1	1549.0	1524.1	1469.9	1429.2
27.5°	1488.0	1474.4	1447.2	1370.4	1322.9
30°	1411.1	1404.3	1365.8	1266.3	1230.2
32.5°	1338.7	1327.4	1286.7	1182.7	1153.3
35°	1264.1	1255.0	1194.0	1103.5	1076.4
37.5°	1189.5	1178.1	1101.3	1028.9	995.0
40°	1114.8	1101.3	1017.6	952.0	915.8
42.5°	1044.7	1026.6	945.2	875.1	834.4
45°	970.1	949.8	868.3	796.0	764.3
47.5°	895.5	877.4	802.8	728.1	692.0
50°	816.3	800.5	732.7	658.0	619.6
52.5°	750.8	725.9	660.3	585.7	554.0
55°	673.9	653.5	592.5	522.4	495.2
57.5°	603.8	583.4	526.9	461.3	438.7
60°	538.2	508.8	461.3	404.8	386.7
62.5°	465.8	443.2	402.5	355.0	377.6
65°	400.3	377.6	341.5	348.2	289.4
67.5°	327.9	316.6	284.9	253.3	244.2
70°	266.8	253.3	242.0	208.0	199.0
72.5°	212.6	199.0	183.2	165.1	158.3
75°	160.6	149.2	140.2	133.4	147.0
77.5°	110.8	106.3	99.5	92.7	90.5
80°	72.4	70.1	67.8	65.6	63.3
82.5°	43.0	43.0	43.0	43.0	43.0
85°	22.6	24.9	27.1	29.4	31.7
87.5°	13.6	13.6	15.8	18.1	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)