

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P313757

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-4000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P313757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 4000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4260.0 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

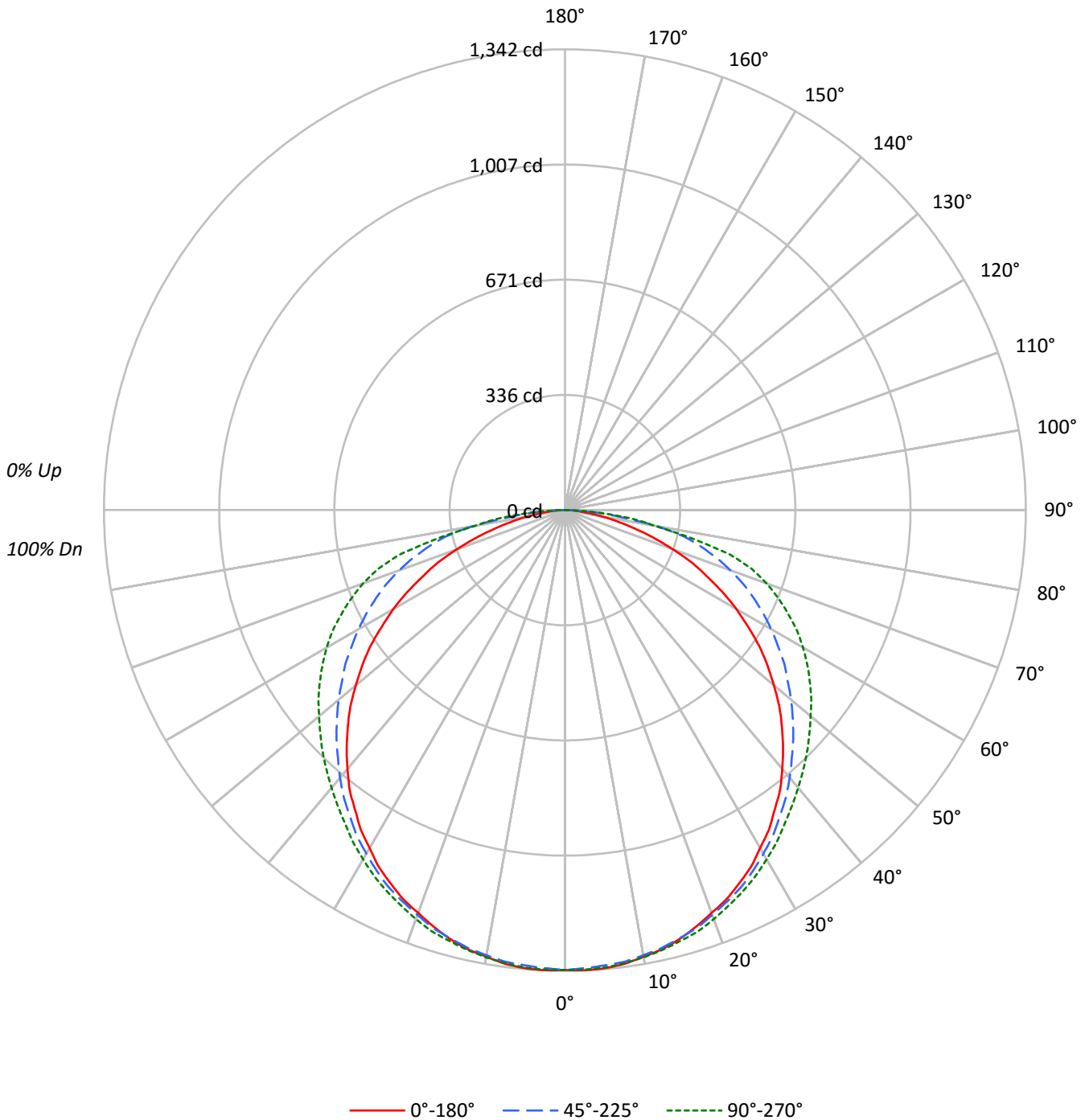
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1802	1802	1802
5°	1809	1798	1806
10°	1804	1799	1807
15°	1801	1798	1810
20°	1788	1797	1815
25°	1782	1801	1819
30°	1766	1796	1825
35°	1749	1791	1833
40°	1730	1789	1856
45°	1701	1789	1898
50°	1663	1800	1955
55°	1621	1829	2042
60°	1552	1865	2155
65°	1453	1931	2287
70°	1322	2020	2461
75°	1120	2131	2570
80°	884	2145	2080
85°	653	1632	1826



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.1	3.0
10°-20°	365.7	8.6
20°-30°	559.3	13.1
30°-40°	683.7	16.0
40°-50°	728.7	17.1
50°-60°	696.7	16.4
60°-70°	590.2	13.9
70°-80°	396.7	9.3
80°-90°	111.9	2.6
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°	1052.1	24.7
0°-40°	1735.8	40.7
0°-60°	3161.2	74.2
0°-90°	4260.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4260.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1340	1340	1340	1340	1340	
5°	1340	1338	1331	1338	1338	127
15°	1293	1293	1291	1302	1300	365
25°	1200	1204	1213	1223	1226	553
35°	1065	1073	1090	1111	1116	667
45°	894	909	940	980	997	689
55°	691	716	780	841	871	615
65°	456	503	606	687	718	453
75°	216	294	410	480	494	231
85°	42	87	106	114	118	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1339.6	1339.6	1339.6	1339.6	1339.6
2.5°	1341.8	1341.8	1335.4	1339.6	1339.6
5°	1339.6	1337.5	1331.2	1337.5	1337.5
7.5°	1333.3	1331.2	1327.0	1333.3	1331.2
10°	1320.6	1320.6	1316.4	1322.7	1322.7
12.5°	1310.1	1308.0	1305.8	1314.3	1312.2
15°	1293.2	1293.2	1291.0	1301.6	1299.5
17.5°	1272.0	1274.1	1276.3	1284.7	1286.8
20°	1248.8	1253.0	1255.1	1267.8	1267.8
22.5°	1227.7	1229.8	1234.0	1246.7	1246.7
25°	1200.2	1204.4	1212.9	1223.4	1225.5
27.5°	1172.7	1174.8	1185.4	1200.2	1202.3
30°	1136.8	1143.1	1155.8	1172.7	1174.8
32.5°	1105.1	1111.4	1126.2	1143.1	1147.4
35°	1065.0	1073.4	1090.3	1111.4	1115.7
37.5°	1029.0	1035.4	1056.5	1079.7	1086.1
40°	984.7	997.3	1018.5	1045.9	1056.5
42.5°	940.3	953.0	978.3	1014.2	1026.9
45°	893.8	908.6	940.3	980.4	997.3
47.5°	847.3	864.2	900.1	946.6	965.6
50°	794.5	815.6	860.0	912.8	934.0
52.5°	743.8	769.1	817.7	876.9	904.4
55°	691.0	716.3	779.7	841.0	870.6
57.5°	631.8	665.6	735.3	805.1	836.8
60°	576.9	608.5	693.1	769.1	800.8
62.5°	517.7	559.9	650.8	731.1	762.8
65°	456.4	502.9	606.4	686.7	718.4
67.5°	401.5	452.2	562.1	642.4	674.1
70°	336.0	399.4	513.5	593.8	625.5
72.5°	274.7	344.4	462.7	540.9	570.5
75°	215.5	293.7	409.9	479.7	494.4
77.5°	160.6	243.0	355.0	384.6	374.0
80°	114.1	194.4	276.8	262.0	268.4
82.5°	74.0	147.9	171.2	194.4	200.7
85°	42.3	86.6	105.7	114.1	118.3
87.5°	19.0	31.7	42.3	42.3	40.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)