

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: P310431

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP187-W2A-U-4500K**

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: P310431
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-L82765-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 4121.0 lumens
Efficiency: N/A
Efficacy: 70.1 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

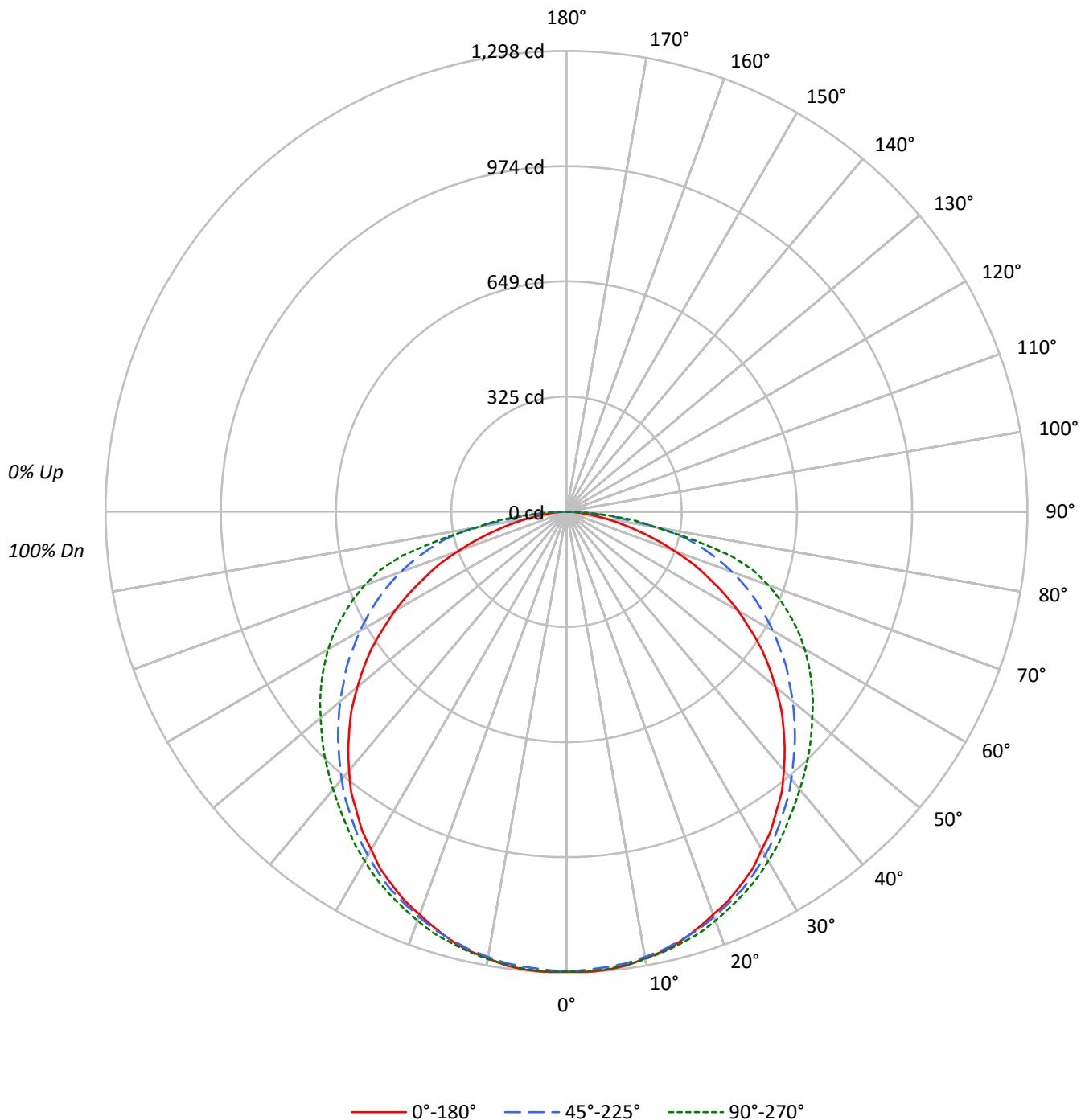
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1744	1744	1744
5°	1750	1739	1748
10°	1745	1740	1748
15°	1743	1740	1751
20°	1730	1739	1756
25°	1724	1742	1760
30°	1709	1737	1766
35°	1692	1732	1773
40°	1673	1730	1795
45°	1645	1731	1836
50°	1609	1741	1891
55°	1568	1769	1976
60°	1502	1804	2085
65°	1406	1868	2213
70°	1279	1954	2380
75°	1084	2061	2486
80°	855	2075	2011
85°	631	1578	1768



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.9	3.0
10°-20°	353.8	8.6
20°-30°	541.0	13.1
30°-40°	661.4	16.0
40°-50°	704.9	17.1
50°-60°	674.0	16.4
60°-70°	571.0	13.9
70°-80°	383.7	9.3
80°-90°	108.3	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°	1017.8	24.7
0°-40°	1679.1	40.7
0°-60°	3058.1	74.2
0°-90°	4121.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4121.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1296	1296	1296	1296	1296	
5°	1296	1294	1288	1294	1294	123
15°	1251	1251	1249	1259	1257	353
25°	1161	1165	1173	1184	1186	535
35°	1030	1038	1055	1075	1079	645
45°	865	879	910	948	965	667
55°	668	693	754	814	842	595
65°	442	486	587	664	695	438
75°	208	284	396	464	478	223
85°	41	84	102	110	114	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1295.9	1295.9	1295.9	1295.9	1295.9
2.5°	1298.0	1298.0	1291.8	1295.9	1295.9
5°	1295.9	1293.9	1287.8	1293.9	1293.9
7.5°	1289.8	1287.8	1283.7	1289.8	1287.8
10°	1277.5	1277.5	1273.5	1279.6	1279.6
12.5°	1267.3	1265.3	1263.2	1271.4	1269.4
15°	1251.0	1251.0	1248.9	1259.1	1257.1
17.5°	1230.5	1232.6	1234.6	1242.8	1244.8
20°	1208.0	1212.1	1214.2	1226.4	1226.4
22.5°	1187.6	1189.6	1193.7	1206.0	1206.0
25°	1161.0	1165.1	1173.3	1183.5	1185.6
27.5°	1134.5	1136.5	1146.7	1161.0	1163.1
30°	1099.7	1105.8	1118.1	1134.5	1136.5
32.5°	1069.0	1075.2	1089.5	1105.8	1109.9
35°	1030.2	1038.4	1054.7	1075.2	1079.3
37.5°	995.5	1001.6	1022.0	1044.5	1050.6
40°	952.5	964.8	985.2	1011.8	1022.0
42.5°	909.6	921.9	946.4	981.2	993.4
45°	864.6	878.9	909.6	948.4	964.8
47.5°	819.7	836.0	870.8	915.7	934.1
50°	768.6	789.0	831.9	883.0	903.5
52.5°	719.5	744.0	791.1	848.3	874.9
55°	668.4	692.9	754.3	813.5	842.2
57.5°	611.2	643.9	711.3	778.8	809.4
60°	558.0	588.7	670.5	744.0	774.7
62.5°	500.8	541.7	629.6	707.2	737.9
65°	441.5	486.5	586.6	664.3	695.0
67.5°	388.4	437.4	543.7	621.4	652.1
70°	325.0	386.3	496.7	574.4	605.0
72.5°	265.7	333.2	447.7	523.3	551.9
75°	208.5	284.1	396.5	464.0	478.3
77.5°	155.3	235.1	343.4	372.0	361.8
80°	110.4	188.1	267.8	253.5	259.6
82.5°	71.5	143.1	165.6	188.1	194.2
85°	40.9	83.8	102.2	110.4	114.5
87.5°	18.4	30.7	40.9	40.9	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)