

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: P310314

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CA08-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: P310314
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: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 3768.0 lumens
Efficiency: N/A
Efficacy: 77.7 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

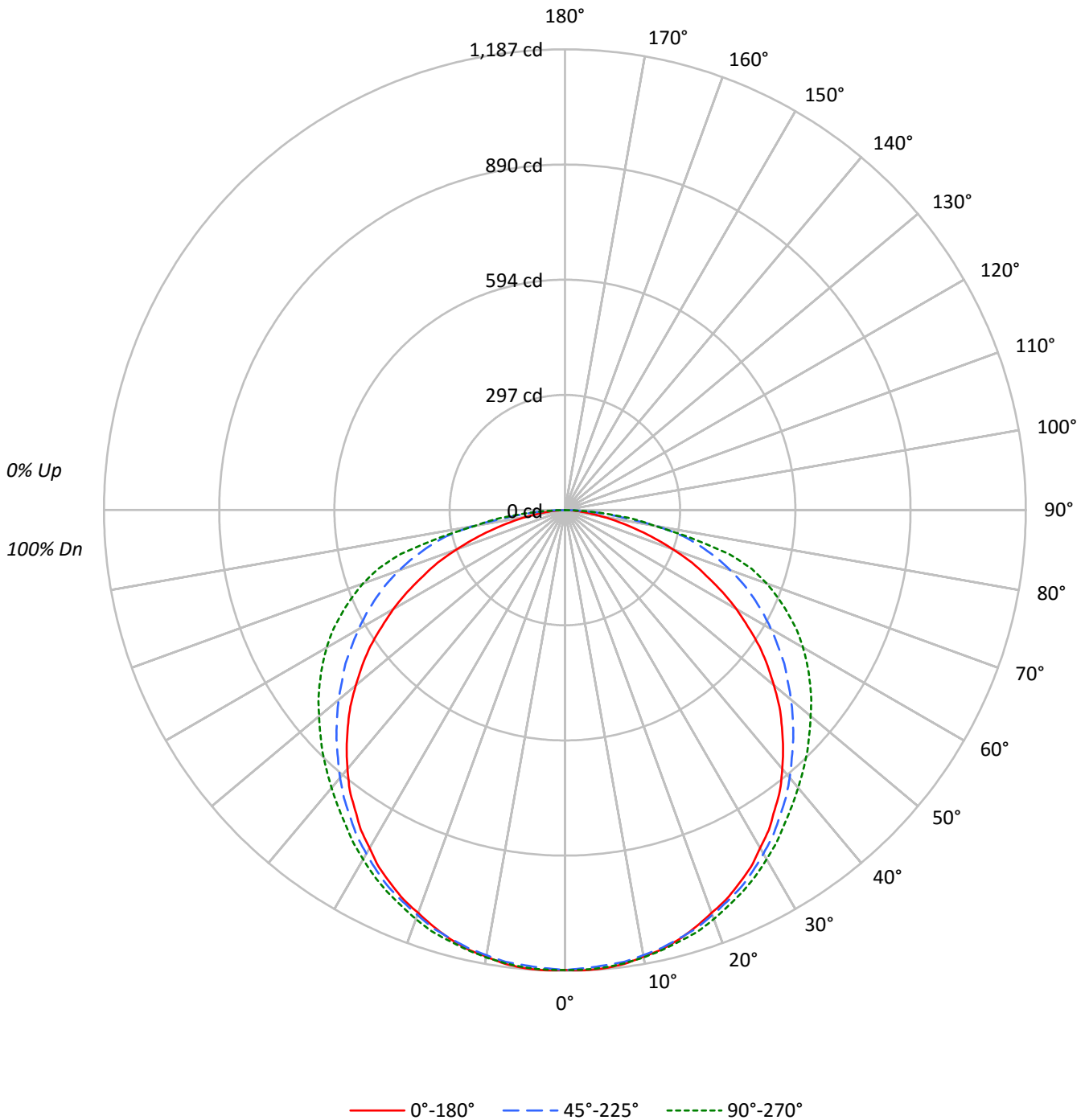
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1594	1594	1594
5°	1600	1590	1598
10°	1596	1591	1599
15°	1593	1591	1601
20°	1582	1590	1606
25°	1576	1593	1609
30°	1562	1588	1614
35°	1547	1584	1621
40°	1530	1582	1641
45°	1504	1583	1679
50°	1471	1592	1729
55°	1434	1618	1806
60°	1373	1650	1906
65°	1285	1708	2023
70°	1169	1787	2176
75°	991	1885	2273
80°	782	1897	1839
85°	577	1442	1616



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.4	3.0
10°-20°	323.5	8.6
20°-30°	494.7	13.1
30°-40°	604.7	16.0
40°-50°	644.5	17.1
50°-60°	616.3	16.4
60°-70°	522.1	13.9
70°-80°	350.9	9.3
80°-90°	99.0	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°	930.6	24.7
0°-40°	1535.3	40.7
0°-60°	2796.1	74.2
0°-90°	3768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3768.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1185	1185	1185	1185	1185	
5°	1185	1183	1178	1183	1183	113
15°	1144	1144	1142	1151	1149	323
25°	1062	1065	1073	1082	1084	489
35°	942	949	964	983	987	590
45°	791	804	832	867	882	610
55°	611	634	690	744	770	544
65°	404	445	536	607	636	401
75°	191	260	363	424	437	204
85°	37	77	93	101	105	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1184.9	1184.9	1184.9	1184.9	1184.9
2.5°	1186.8	1186.8	1181.2	1184.9	1184.9
5°	1184.9	1183.1	1177.5	1183.1	1183.1
7.5°	1179.3	1177.5	1173.7	1179.3	1177.5
10°	1168.1	1168.1	1164.4	1170.0	1170.0
12.5°	1158.8	1156.9	1155.0	1162.5	1160.6
15°	1143.8	1143.8	1141.9	1151.3	1149.4
17.5°	1125.1	1127.0	1128.9	1136.3	1138.2
20°	1104.6	1108.3	1110.2	1121.4	1121.4
22.5°	1085.9	1087.7	1091.5	1102.7	1102.7
25°	1061.6	1065.3	1072.8	1082.1	1084.0
27.5°	1037.3	1039.1	1048.5	1061.6	1063.4
30°	1005.5	1011.1	1022.3	1037.3	1039.1
32.5°	977.5	983.1	996.2	1011.1	1014.9
35°	942.0	949.4	964.4	983.1	986.8
37.5°	910.2	915.8	934.5	955.0	960.7
40°	870.9	882.2	900.8	925.1	934.5
42.5°	831.7	842.9	865.3	897.1	908.3
45°	790.6	803.7	831.7	867.2	882.2
47.5°	749.5	764.4	796.2	837.3	854.1
50°	702.7	721.4	760.7	807.4	826.1
52.5°	657.9	680.3	723.3	775.6	799.9
55°	611.2	633.6	689.7	743.9	770.0
57.5°	558.8	588.7	650.4	712.1	740.1
60°	510.2	538.3	613.0	680.3	708.3
62.5°	457.9	495.3	575.6	646.7	674.7
65°	403.7	444.8	536.4	607.4	635.5
67.5°	355.1	400.0	497.1	568.2	596.2
70°	297.2	353.2	454.2	525.2	553.2
72.5°	243.0	304.6	409.3	478.5	504.6
75°	190.6	259.8	362.6	424.3	437.3
77.5°	142.0	214.9	314.0	340.2	330.8
80°	100.9	171.9	244.8	231.8	237.4
82.5°	65.4	130.8	151.4	171.9	177.6
85°	37.4	76.6	93.4	100.9	104.7
87.5°	16.8	28.0	37.4	37.4	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)