

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: P310797

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-W2A-U-3000K**

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: P310797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45HE-UNV-L82765-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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: 3593.0 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

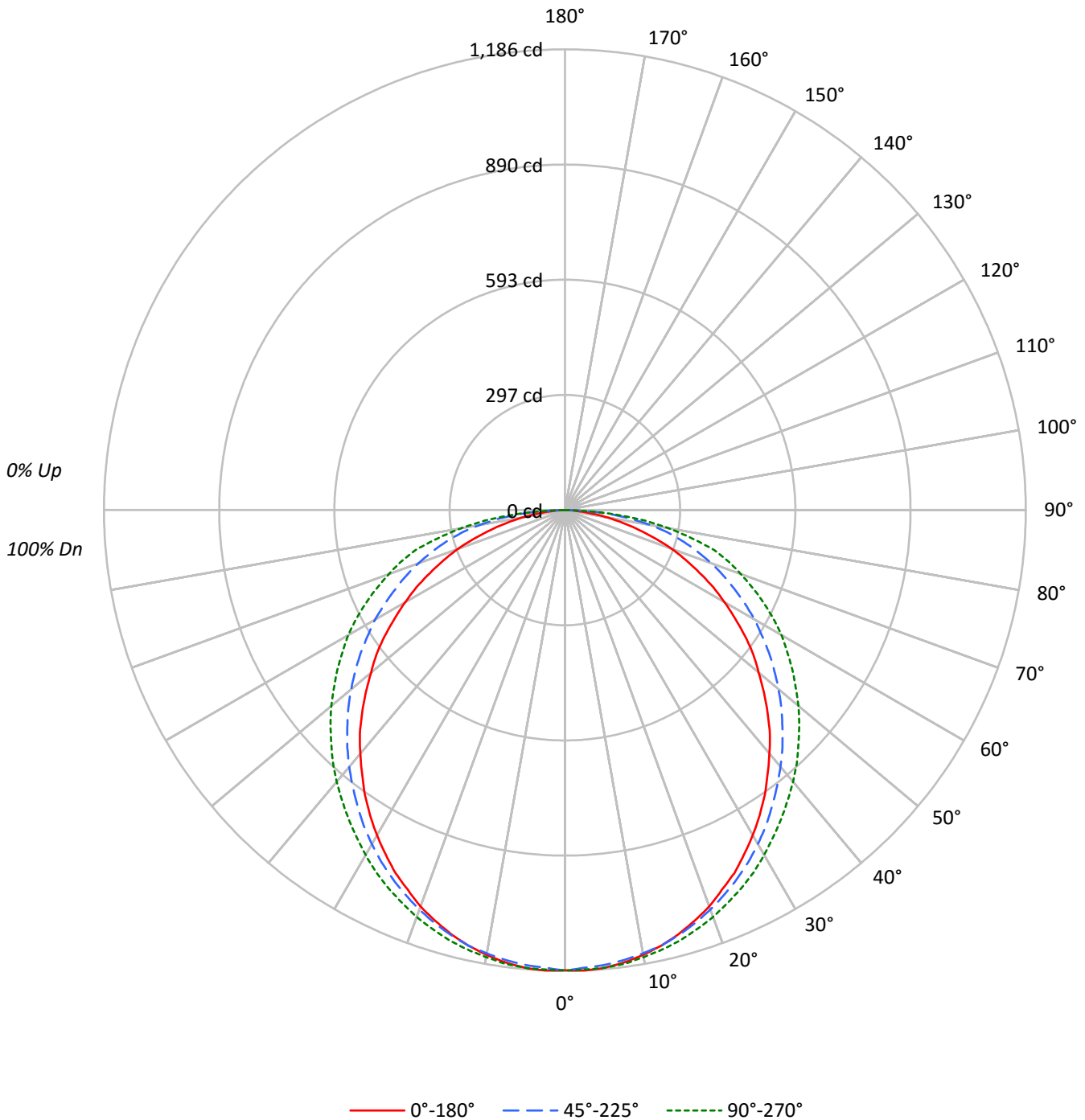
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1594	1594	1594
5°	1597	1588	1597
10°	1588	1583	1596
15°	1574	1578	1597
20°	1555	1567	1596
25°	1531	1556	1595
30°	1502	1543	1593
35°	1473	1527	1594
40°	1439	1516	1604
45°	1404	1506	1617
50°	1362	1502	1642
55°	1328	1504	1675
60°	1277	1517	1732
65°	1218	1533	1795
70°	1154	1580	1895
75°	1029	1648	2070
80°	877	1746	2115
85°	625	1731	2024



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.1	3.1
10°-20°	320.7	8.9
20°-30°	484.3	13.5
30°-40°	583.7	16.2
40°-50°	612.8	17.1
50°-60°	573.3	16.0
60°-70°	473.4	13.2
70°-80°	322.6	9.0
80°-90°	110.0	3.1
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°	917.1	25.5
0°-40°	1500.8	41.8
0°-60°	2686.9	74.8
0°-90°	3593.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3593.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1185	1185	1185	1185	1185	
5°	1183	1181	1175	1183	1183	112
15°	1130	1131	1132	1144	1147	319
25°	1031	1036	1048	1068	1074	474
35°	896	906	930	961	970	560
45°	738	753	792	834	850	569
55°	566	589	641	694	714	505
65°	383	415	482	542	564	380
75°	198	243	317	377	398	211
85°	40	80	112	126	131	51
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°	1186.1	1184.9	1179.0	1184.9	1183.7
5°	1182.6	1181.4	1175.4	1182.6	1182.6
7.5°	1174.2	1174.2	1168.3	1176.6	1177.8
10°	1162.3	1162.3	1158.7	1168.3	1168.3
12.5°	1148.0	1148.0	1148.0	1157.5	1158.7
15°	1130.1	1131.3	1132.5	1144.4	1146.8
17.5°	1108.6	1111.0	1114.6	1128.9	1131.3
20°	1086.0	1088.4	1094.3	1111.0	1114.6
22.5°	1057.4	1063.3	1071.7	1090.8	1094.3
25°	1031.2	1035.9	1047.8	1068.1	1074.1
27.5°	999.0	1006.1	1021.6	1043.1	1051.4
30°	966.8	973.9	993.0	1018.0	1025.2
32.5°	932.2	942.9	963.2	989.4	997.8
35°	896.5	906.0	929.8	960.8	970.4
37.5°	857.1	870.2	896.5	929.8	941.8
40°	819.0	833.3	863.1	898.8	913.1
42.5°	780.8	795.1	828.5	869.0	883.3
45°	737.9	753.4	791.5	834.5	850.0
47.5°	695.0	714.1	755.8	801.1	817.8
50°	650.9	672.3	717.6	765.3	784.4
52.5°	611.5	631.8	679.5	730.8	748.6
55°	566.2	588.9	641.3	693.8	714.1
57.5°	519.8	544.8	600.8	658.0	678.3
60°	474.5	501.9	563.9	621.1	643.7
62.5°	430.3	457.8	522.1	581.7	604.4
65°	382.7	414.8	481.6	542.4	563.9
67.5°	337.4	371.9	442.3	501.9	523.3
70°	293.3	326.6	401.7	460.1	481.6
72.5°	245.6	283.7	358.8	419.6	442.3
75°	197.9	243.2	317.1	376.7	398.2
77.5°	153.8	200.3	274.2	323.1	333.8
80°	113.2	160.9	225.3	259.9	273.0
82.5°	72.7	120.4	171.7	196.7	207.4
85°	40.5	79.9	112.1	126.4	131.1
87.5°	16.7	34.6	45.3	51.3	51.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)