

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: P310332

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP125-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: P310332
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" 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: 3682.0 lumens
Efficiency: N/A
Efficacy: 75.9 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

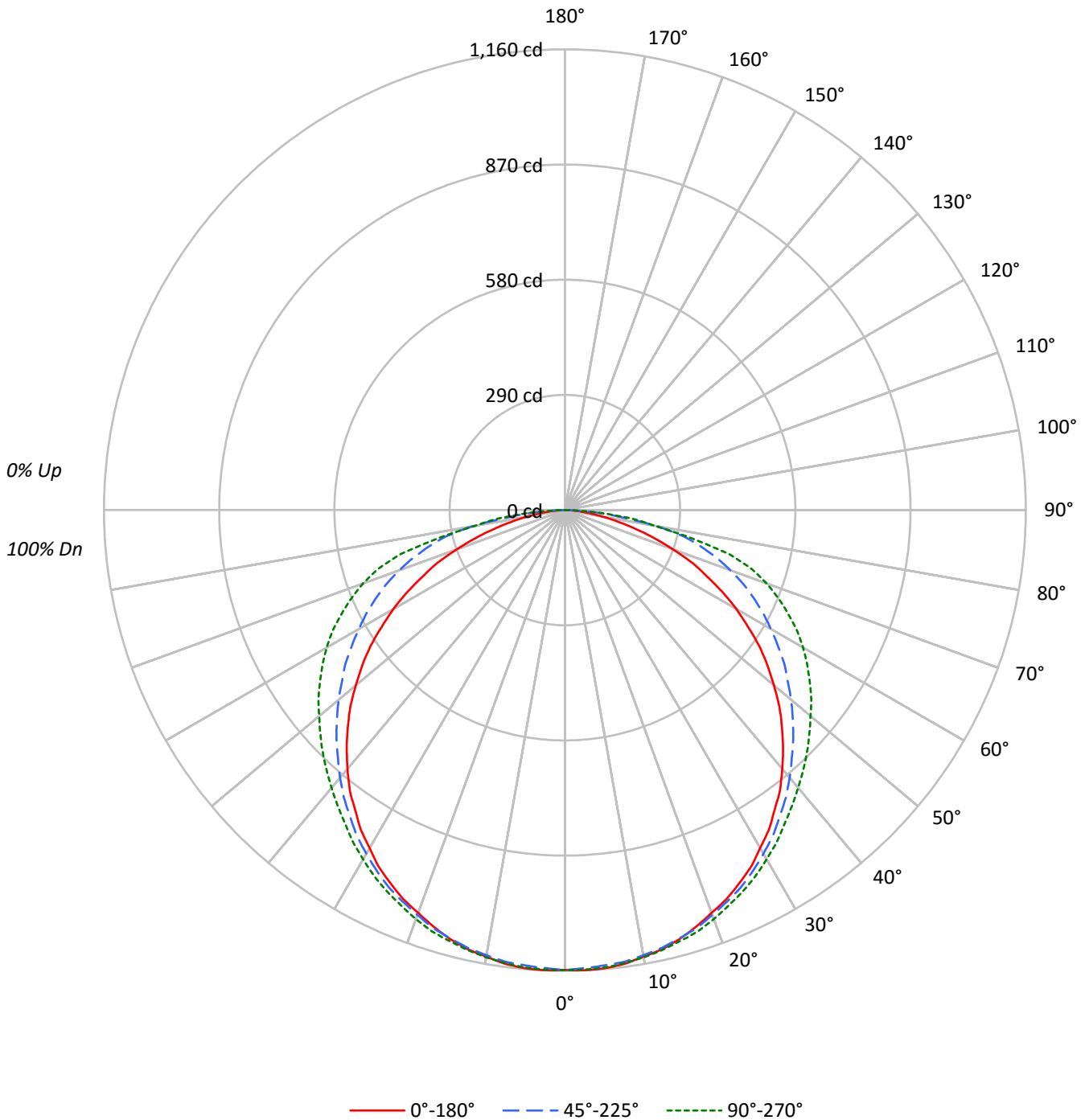
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1558	1558	1558
5°	1564	1554	1561
10°	1559	1555	1562
15°	1557	1554	1565
20°	1546	1553	1569
25°	1540	1556	1573
30°	1527	1552	1578
35°	1512	1548	1584
40°	1495	1546	1604
45°	1470	1546	1640
50°	1437	1556	1690
55°	1401	1581	1765
60°	1342	1612	1863
65°	1256	1669	1977
70°	1142	1746	2127
75°	968	1842	2222
80°	764	1853	1797
85°	563	1409	1579



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.8	3.0
10°-20°	316.1	8.6
20°-30°	483.4	13.1
30°-40°	590.9	16.0
40°-50°	629.8	17.1
50°-60°	602.2	16.4
60°-70°	510.1	13.9
70°-80°	342.9	9.3
80°-90°	96.7	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°	909.3	24.7
0°-40°	1500.3	40.7
0°-60°	2732.3	74.2
0°-90°	3682.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3682.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1158	1158	1158	1158	1158	
5°	1158	1156	1151	1156	1156	110
15°	1118	1118	1116	1125	1123	315
25°	1037	1041	1048	1057	1059	478
35°	920	928	942	961	964	577
45°	772	785	813	847	862	596
55°	597	619	674	727	752	532
65°	394	435	524	594	621	392
75°	186	254	354	415	427	199
85°	36	75	91	99	102	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1157.9	1157.9	1157.9	1157.9	1157.9
2.5°	1159.7	1159.7	1154.2	1157.9	1157.9
5°	1157.9	1156.1	1150.6	1156.1	1156.1
7.5°	1152.4	1150.6	1146.9	1152.4	1150.6
10°	1141.4	1141.4	1137.8	1143.3	1143.3
12.5°	1132.3	1130.5	1128.7	1136.0	1134.1
15°	1117.7	1117.7	1115.9	1125.0	1123.2
17.5°	1099.4	1101.3	1103.1	1110.4	1112.2
20°	1079.4	1083.0	1084.8	1095.8	1095.8
22.5°	1061.1	1062.9	1066.6	1077.5	1077.5
25°	1037.3	1041.0	1048.3	1057.4	1059.3
27.5°	1013.6	1015.4	1024.6	1037.3	1039.2
30°	982.6	988.0	999.0	1013.6	1015.4
32.5°	955.2	960.6	973.4	988.0	991.7
35°	920.5	927.8	942.4	960.6	964.3
37.5°	889.4	894.9	913.2	933.2	938.7
40°	851.1	862.0	880.3	904.0	913.2
42.5°	812.7	823.7	845.6	876.6	887.6
45°	772.5	785.3	812.7	847.4	862.0
47.5°	732.4	747.0	778.0	818.2	834.6
50°	686.7	705.0	743.3	789.0	807.2
52.5°	642.9	664.8	706.8	757.9	781.7
55°	597.2	619.1	673.9	726.9	752.4
57.5°	546.1	575.3	635.6	695.8	723.2
60°	498.6	526.0	599.0	664.8	692.2
62.5°	447.4	484.0	562.5	631.9	659.3
65°	394.5	434.7	524.2	593.6	620.9
67.5°	347.0	390.8	485.8	555.2	582.6
70°	290.4	345.2	443.8	513.2	540.6
72.5°	237.4	297.7	400.0	467.5	493.1
75°	186.3	253.9	354.3	414.6	427.4
77.5°	138.8	210.0	306.8	332.4	323.3
80°	98.6	168.0	239.2	226.5	231.9
82.5°	63.9	127.8	147.9	168.0	173.5
85°	36.5	74.9	91.3	98.6	102.3
87.5°	16.4	27.4	36.5	36.5	34.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)