

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: P313702

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP125-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: P313702
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-L83050-RDP-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" 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: 3805.0 lumens
Efficiency: N/A
Efficacy: 78.1 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

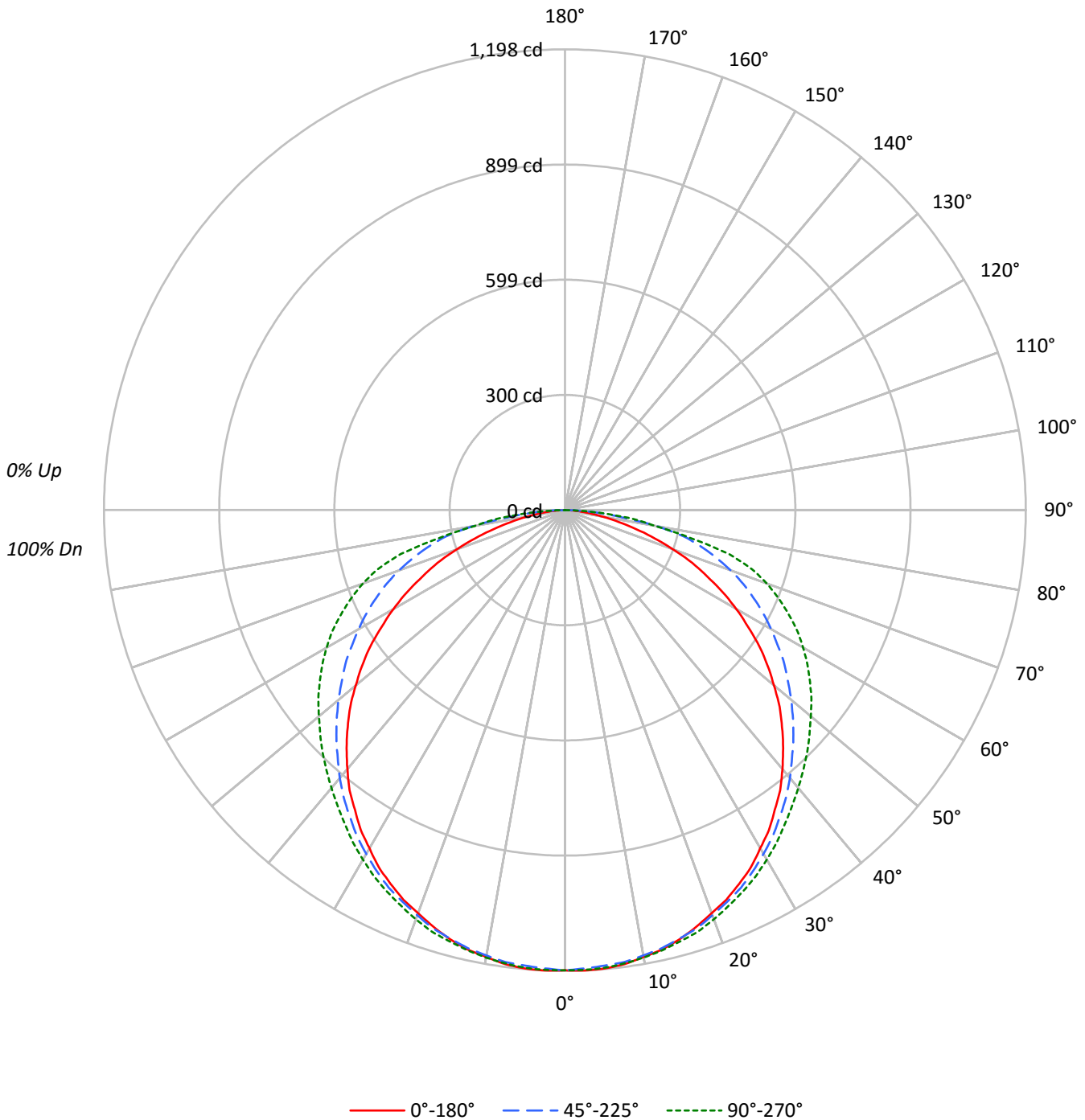
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1610	1610	1610
5°	1616	1606	1614
10°	1612	1606	1614
15°	1609	1606	1617
20°	1597	1605	1621
25°	1591	1608	1625
30°	1578	1604	1630
35°	1562	1600	1637
40°	1545	1598	1658
45°	1519	1598	1695
50°	1485	1608	1746
55°	1448	1634	1824
60°	1386	1666	1925
65°	1298	1725	2043
70°	1181	1804	2198
75°	1001	1903	2296
80°	790	1915	1857
85°	582	1457	1632



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.5	3.0
10°-20°	326.7	8.6
20°-30°	499.5	13.1
30°-40°	610.7	16.0
40°-50°	650.9	17.1
50°-60°	622.3	16.4
60°-70°	527.2	13.9
70°-80°	354.3	9.3
80°-90°	99.9	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°	939.7	24.7
0°-40°	1550.4	40.7
0°-60°	2823.6	74.2
0°-90°	3805.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3805.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1197	1197	1197	1197	1197	
5°	1197	1195	1189	1195	1195	114
15°	1155	1155	1153	1163	1161	326
25°	1072	1076	1083	1093	1095	494
35°	951	959	974	993	996	596
45°	798	812	840	876	891	616
55°	617	640	696	751	778	550
65°	408	449	542	613	642	405
75°	192	262	366	428	442	206
85°	38	77	94	102	106	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1196.6	1196.6	1196.6	1196.6	1196.6
2.5°	1198.5	1198.5	1192.8	1196.6	1196.6
5°	1196.6	1194.7	1189.0	1194.7	1194.7
7.5°	1190.9	1189.0	1185.2	1190.9	1189.0
10°	1179.6	1179.6	1175.8	1181.5	1181.5
12.5°	1170.1	1168.3	1166.4	1173.9	1172.0
15°	1155.0	1155.0	1153.2	1162.6	1160.7
17.5°	1136.2	1138.1	1139.9	1147.5	1149.4
20°	1115.4	1119.2	1121.1	1132.4	1132.4
22.5°	1096.5	1098.4	1102.2	1113.5	1113.5
25°	1072.0	1075.8	1083.3	1092.8	1094.6
27.5°	1047.5	1049.4	1058.8	1072.0	1073.9
30°	1015.4	1021.0	1032.4	1047.5	1049.4
32.5°	987.1	992.7	1005.9	1021.0	1024.8
35°	951.2	958.8	973.9	992.7	996.5
37.5°	919.1	924.8	943.7	964.4	970.1
40°	879.5	890.8	909.7	934.2	943.7
42.5°	839.9	851.2	873.8	905.9	917.2
45°	798.3	811.5	839.9	875.7	890.8
47.5°	756.8	771.9	804.0	845.5	862.5
50°	709.6	728.5	768.1	815.3	834.2
52.5°	664.3	687.0	730.4	783.2	807.8
55°	617.2	639.8	696.4	751.2	777.6
57.5°	564.3	594.5	656.8	719.1	747.4
60°	515.2	543.5	619.0	687.0	715.3
62.5°	462.4	500.1	581.3	653.0	681.3
65°	407.7	449.2	541.7	613.4	641.7
67.5°	358.6	403.9	502.0	573.7	602.1
70°	300.1	356.7	458.6	530.3	558.6
72.5°	245.4	307.6	413.3	483.2	509.6
75°	192.5	262.3	366.1	428.4	441.6
77.5°	143.4	217.0	317.1	343.5	334.1
80°	101.9	173.6	247.2	234.0	239.7
82.5°	66.1	132.1	152.9	173.6	179.3
85°	37.7	77.4	94.4	101.9	105.7
87.5°	17.0	28.3	37.7	37.7	35.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)