

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: P313320

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CA125-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: P313320
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CA125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 4034.0 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

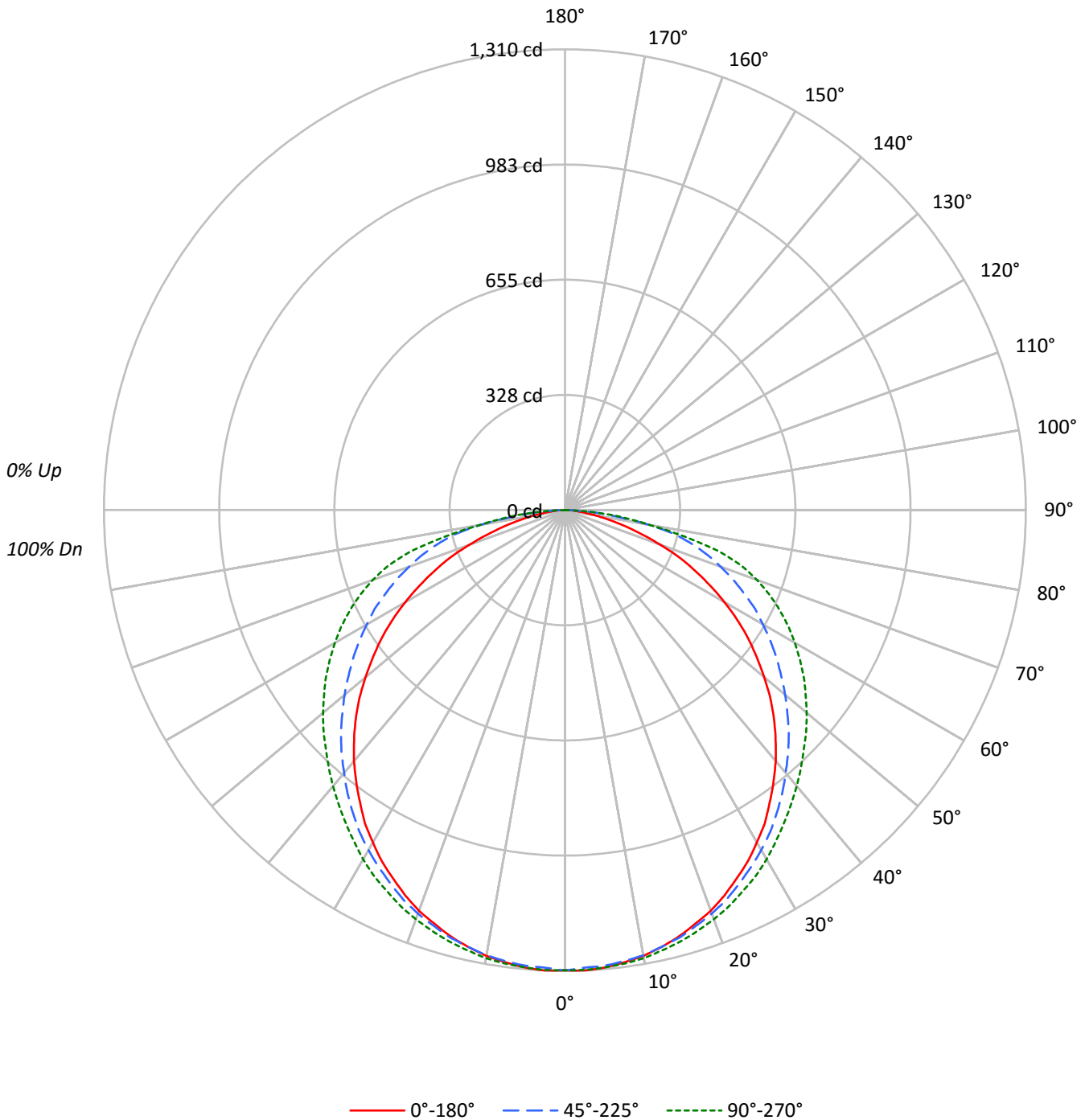
Input Watts (W): 47.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1761	1761	1761
5°	1763	1756	1763
10°	1758	1756	1767
15°	1748	1753	1769
20°	1736	1748	1772
25°	1715	1740	1775
30°	1695	1734	1782
35°	1667	1725	1784
40°	1637	1714	1800
45°	1600	1713	1828
50°	1548	1711	1877
55°	1494	1723	1945
60°	1409	1750	2031
65°	1301	1791	2145
70°	1136	1854	2286
75°	922	1949	2362
80°	680	1911	1911
85°	522	1408	1590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.0	3.1
10°-20°	356.0	8.8
20°-30°	542.0	13.4
30°-40°	658.2	16.3
40°-50°	695.3	17.2
50°-60°	656.1	16.3
60°-70°	545.5	13.5
70°-80°	358.9	8.9
80°-90°	97.8	2.4
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°	1022.1	25.3
0°-40°	1680.2	41.7
0°-60°	3031.7	75.2
0°-90°	4034.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4034.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1306	1306	1300	1306	1306	124
15°	1255	1256	1258	1270	1270	354
25°	1155	1162	1172	1192	1196	533
35°	1015	1027	1050	1078	1086	635
45°	841	858	900	944	961	648
55°	637	664	735	804	829	567
65°	409	456	562	645	674	404
75°	177	258	375	444	454	191
85°	34	74	91	101	103	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1308.8	1308.8	1308.8	1308.8	1308.8
2.5°	1310.5	1308.8	1302.1	1308.8	1308.8
5°	1305.5	1305.5	1300.4	1305.5	1305.5
7.5°	1297.0	1297.0	1293.6	1300.4	1300.4
10°	1286.9	1286.9	1285.2	1293.6	1293.6
12.5°	1271.7	1273.4	1271.7	1281.8	1281.8
15°	1254.8	1256.5	1258.2	1270.0	1270.0
17.5°	1232.8	1236.2	1239.6	1253.1	1254.8
20°	1212.6	1214.3	1221.0	1236.2	1237.9
22.5°	1185.6	1190.6	1199.1	1214.3	1219.3
25°	1155.2	1161.9	1172.0	1192.3	1195.7
27.5°	1126.4	1131.5	1145.0	1167.0	1173.7
30°	1091.0	1099.4	1116.3	1138.3	1146.7
32.5°	1057.2	1065.6	1085.9	1109.6	1116.3
35°	1015.0	1026.8	1050.4	1077.5	1085.9
37.5°	974.4	986.3	1015.0	1045.4	1055.5
40°	932.2	945.7	976.1	1011.6	1025.1
42.5°	886.6	905.2	939.0	977.8	993.0
45°	841.0	857.9	900.1	944.0	960.9
47.5°	792.1	812.3	857.9	910.3	930.5
50°	739.7	765.0	817.4	874.8	896.8
52.5°	687.3	716.1	775.2	839.3	863.0
55°	636.7	663.7	734.6	803.9	829.2
57.5°	581.0	614.7	692.4	766.7	792.1
60°	523.5	560.7	650.2	727.9	754.9
62.5°	466.1	508.3	609.7	687.3	716.1
65°	408.7	456.0	562.4	645.1	673.8
67.5°	353.0	405.3	518.5	601.2	629.9
70°	288.8	354.7	471.2	552.2	581.0
72.5°	229.7	305.7	425.6	501.6	526.9
75°	177.3	258.4	374.9	444.2	454.3
77.5°	130.0	211.1	322.6	346.2	347.9
80°	87.8	168.9	246.6	243.2	246.6
82.5°	57.4	126.7	155.4	173.9	175.6
85°	33.8	74.3	91.2	101.3	103.0
87.5°	16.9	25.3	32.1	33.8	37.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)