

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: P314327

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-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: P314327
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-L83050-S-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 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: 4420.0 lumens
Efficiency: N/A
Efficacy: 127.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

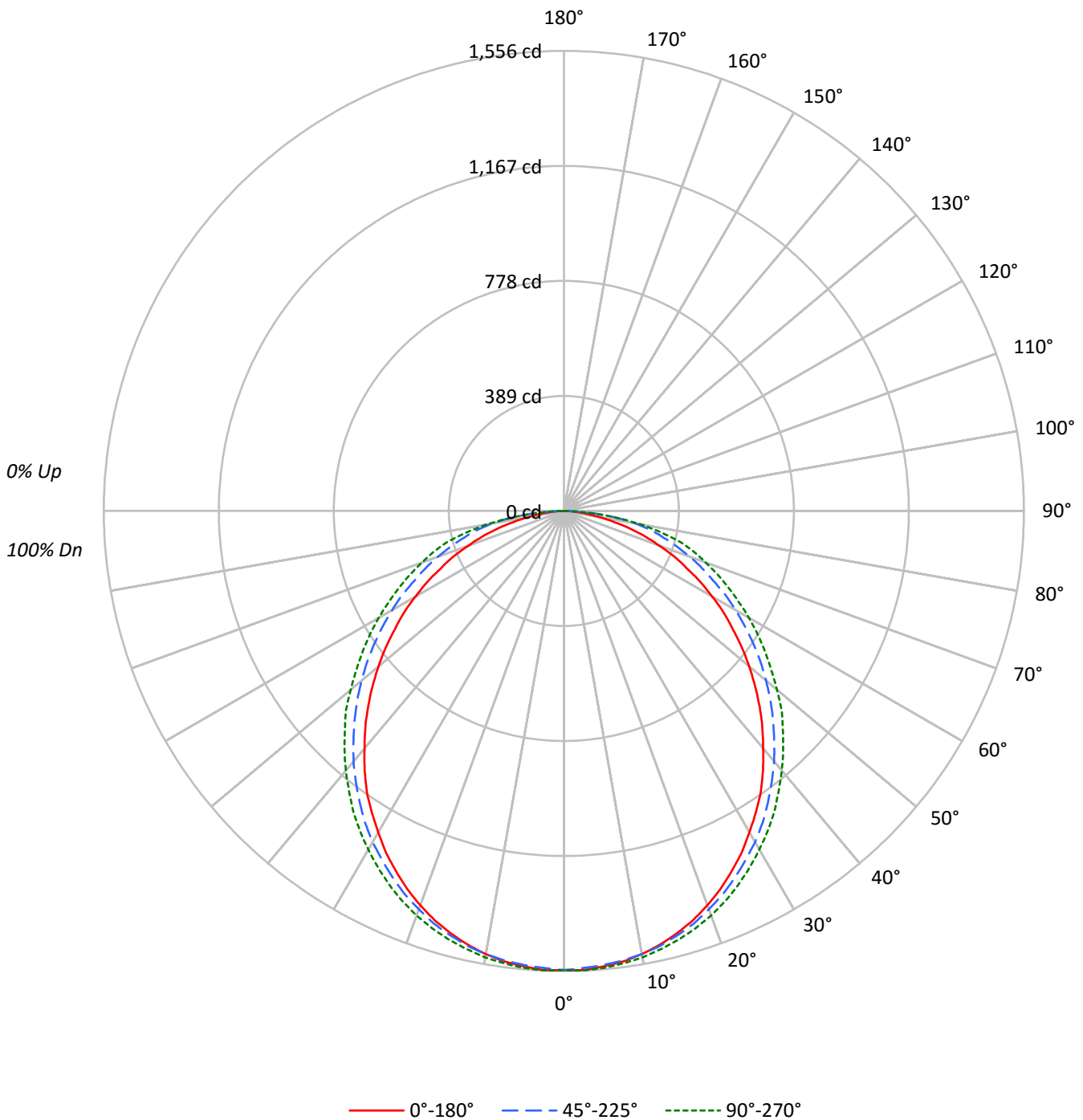
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2089	2089	2089
5°	2088	2082	2095
10°	2079	2079	2095
15°	2059	2069	2091
20°	2032	2052	2085
25°	1995	2032	2072
30°	1950	2009	2055
35°	1907	1976	2039
40°	1842	1943	2015
45°	1782	1905	1993
50°	1713	1869	1969
55°	1637	1834	1950
60°	1560	1806	1946
65°	1462	1775	1958
70°	1353	1784	2010
75°	1212	1817	2124
80°	979	1925	2078
85°	736	1690	1647



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.0	3.3
10°-20°	420.0	9.5
20°-30°	631.4	14.3
30°-40°	752.1	17.0
40°-50°	769.8	17.4
50°-60°	693.0	15.7
60°-70°	544.2	12.3
70°-80°	353.2	8.0
80°-90°	109.2	2.5
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°	1198.4	27.1
0°-40°	1950.6	44.1
0°-60°	3413.3	77.2
0°-90°	4420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4420.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1553	1553	1553	1553	1553	
5°	1546	1549	1542	1550	1551	147
15°	1478	1483	1485	1498	1501	417
25°	1344	1355	1369	1391	1396	619
35°	1161	1175	1203	1233	1241	724
45°	936	959	1001	1039	1047	722
55°	698	729	782	823	831	626
65°	459	494	557	604	615	457
75°	233	278	350	397	409	247
85°	48	88	110	107	107	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1552.8	1552.8	1552.8	1552.8	1552.8
2.5°	1554.2	1554.2	1547.2	1554.2	1555.6
5°	1545.8	1548.6	1541.5	1550.0	1551.4
7.5°	1537.3	1537.3	1533.1	1541.5	1542.9
10°	1521.9	1523.3	1521.9	1531.7	1533.1
12.5°	1502.2	1505.0	1506.4	1516.3	1517.7
15°	1478.4	1482.6	1485.4	1498.0	1500.8
17.5°	1451.7	1455.9	1462.9	1477.0	1479.8
20°	1419.4	1425.0	1433.4	1451.7	1455.9
22.5°	1384.3	1389.9	1404.0	1420.8	1427.8
25°	1343.6	1354.8	1368.9	1391.3	1395.5
27.5°	1302.9	1312.7	1330.9	1354.8	1360.4
30°	1255.1	1270.6	1293.0	1316.9	1322.5
32.5°	1208.8	1224.2	1250.9	1276.2	1283.2
35°	1161.1	1175.1	1203.2	1232.7	1241.1
37.5°	1106.3	1124.6	1155.5	1184.9	1193.4
40°	1048.8	1071.2	1106.3	1137.2	1147.0
42.5°	994.0	1017.9	1053.0	1086.7	1097.9
45°	936.4	958.9	1001.0	1038.9	1047.4
47.5°	877.5	902.7	947.7	985.6	999.6
50°	818.5	845.2	892.9	932.2	940.7
52.5°	759.5	787.6	838.2	880.3	884.5
55°	697.8	728.7	782.0	822.7	831.1
57.5°	641.6	668.3	725.8	768.0	777.8
60°	579.8	609.3	671.1	710.4	723.0
62.5°	520.9	551.8	616.3	655.6	666.9
65°	459.1	494.2	557.4	603.7	614.9
67.5°	405.7	439.4	506.8	551.8	563.0
70°	344.0	381.9	453.5	499.8	511.0
72.5°	290.6	329.9	401.5	446.5	463.3
75°	233.1	278.0	349.6	397.3	408.6
77.5°	176.9	228.8	301.9	338.4	338.4
80°	126.4	181.1	248.5	265.3	268.2
82.5°	82.8	136.2	183.9	182.5	182.5
85°	47.7	88.4	109.5	106.7	106.7
87.5°	18.3	36.5	39.3	39.3	37.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)