

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: P310794

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP187-W2A-U-5700K**

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: P310794
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-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 4000.0 lumens
Efficiency: N/A
Efficacy: 115.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

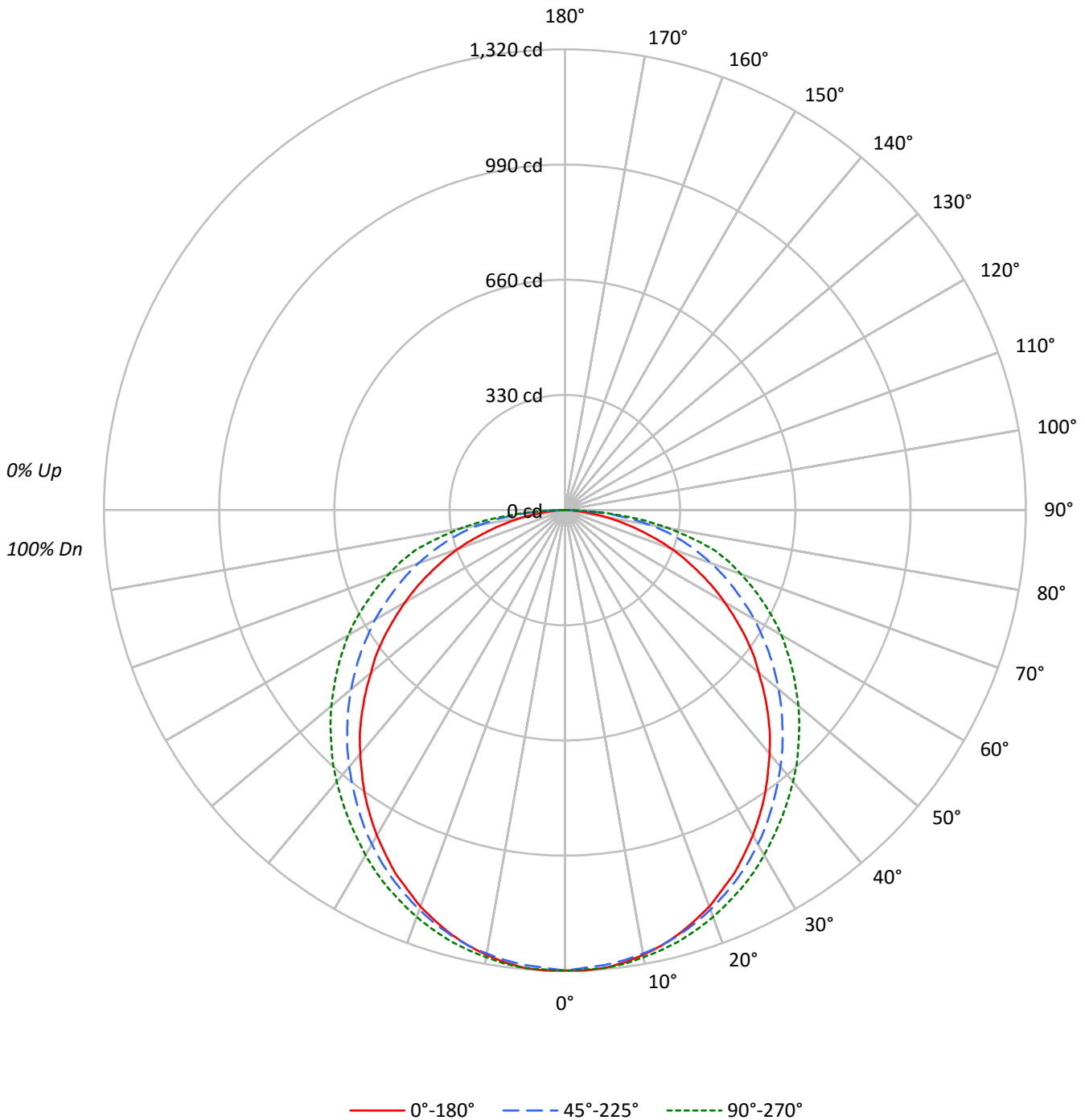
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1775	1775	1775
5°	1778	1767	1778
10°	1768	1762	1777
15°	1752	1756	1778
20°	1731	1744	1777
25°	1704	1732	1775
30°	1672	1718	1773
35°	1639	1700	1774
40°	1601	1688	1786
45°	1563	1677	1800
50°	1517	1672	1828
55°	1479	1675	1865
60°	1421	1689	1928
65°	1356	1707	1998
70°	1284	1759	2109
75°	1145	1835	2305
80°	977	1943	2355
85°	696	1927	2254



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.8	3.1
10°-20°	357.0	8.9
20°-30°	539.2	13.5
30°-40°	649.8	16.2
40°-50°	682.2	17.1
50°-60°	638.2	16.0
60°-70°	527.1	13.2
70°-80°	359.2	9.0
80°-90°	122.5	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°	1021.0	25.5
0°-40°	1670.8	41.8
0°-60°	2991.3	74.8
0°-90°	4000.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4000.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1319	1319	1319	1319	1319	
5°	1316	1315	1308	1316	1316	125
15°	1258	1259	1261	1274	1277	355
25°	1148	1153	1166	1189	1196	528
35°	998	1009	1035	1070	1080	624
45°	822	839	881	929	946	634
55°	630	656	714	772	795	563
65°	426	462	536	604	628	423
75°	220	271	353	419	443	235
85°	45	89	125	141	146	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1319.2	1319.2	1319.2	1319.2	1319.2
2.5°	1320.5	1319.2	1312.5	1319.2	1317.8
5°	1316.5	1315.2	1308.5	1316.5	1316.5
7.5°	1307.2	1307.2	1300.6	1309.9	1311.2
10°	1293.9	1293.9	1290.0	1300.6	1300.6
12.5°	1278.0	1278.0	1278.0	1288.6	1290.0
15°	1258.1	1259.4	1260.8	1274.0	1276.7
17.5°	1234.2	1236.9	1240.9	1256.8	1259.4
20°	1209.0	1211.7	1218.3	1236.9	1240.9
22.5°	1177.2	1183.8	1193.1	1214.3	1218.3
25°	1148.0	1153.3	1166.5	1189.1	1195.7
27.5°	1112.1	1120.1	1137.3	1161.2	1170.5
30°	1076.3	1084.3	1105.5	1133.4	1141.3
32.5°	1037.8	1049.8	1072.3	1101.5	1110.8
35°	998.0	1008.6	1035.2	1069.7	1080.3
37.5°	954.2	968.8	998.0	1035.2	1048.4
40°	911.7	927.7	960.8	1000.7	1016.6
42.5°	869.3	885.2	922.4	967.5	983.4
45°	821.5	838.7	881.2	929.0	946.2
47.5°	773.7	794.9	841.4	891.8	910.4
50°	724.6	748.5	798.9	852.0	873.3
52.5°	680.8	703.4	756.5	813.5	833.4
55°	630.4	655.6	714.0	772.4	794.9
57.5°	578.6	606.5	668.9	732.6	755.1
60°	528.2	558.7	627.7	691.4	716.6
62.5°	479.1	509.6	581.3	647.6	672.9
65°	426.0	461.8	536.2	603.8	627.7
67.5°	375.6	414.1	492.4	558.7	582.6
70°	326.5	363.6	447.2	512.3	536.2
72.5°	273.4	315.9	399.5	467.1	492.4
75°	220.3	270.7	353.0	419.4	443.3
77.5°	171.2	223.0	305.2	359.7	371.6
80°	126.1	179.2	250.8	289.3	303.9
82.5°	81.0	134.0	191.1	219.0	230.9
85°	45.1	88.9	124.8	140.7	146.0
87.5°	18.6	38.5	50.4	57.1	57.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)