

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: P313306

Luminaire Tested: **24FCZ2-55HE-UNV-L83050-HRP-CP187-W2A-U-3500K**

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: P313306
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: 24FCZ2-55HE-UNV-L83050-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3500K 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: 3688.0 lumens
Efficiency: N/A
Efficacy: 85.6 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

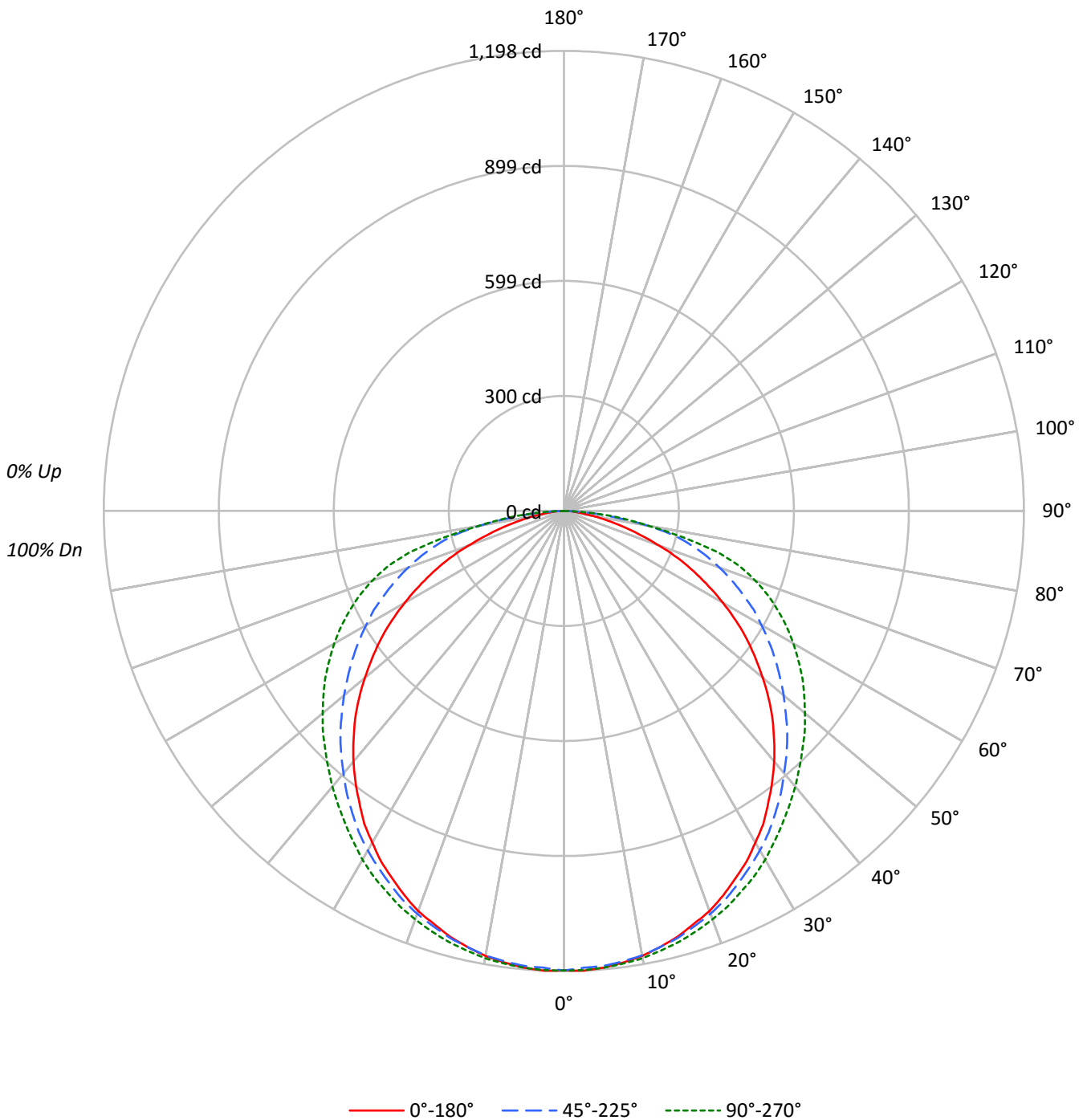
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82	82	82	82	82	82		
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67	67	67	67	67	67		
	3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56	56	56	56	56	56		
	4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48	48	48	48	48	48		
	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41	41	41	41	41	41		
	6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36	36	36	36	36	36		
	7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31	31	31	31	31	31		
	8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28	28	28	28	28	28		
	9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25	25	25	25	25	25		
	10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23	23	23	23	23	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1610	1610	1610
5°	1612	1606	1612
10°	1607	1605	1616
15°	1598	1602	1617
20°	1587	1598	1620
25°	1568	1591	1623
30°	1550	1586	1629
35°	1524	1577	1631
40°	1497	1567	1646
45°	1463	1566	1672
50°	1416	1564	1716
55°	1365	1575	1778
60°	1288	1600	1857
65°	1189	1637	1961
70°	1039	1695	2089
75°	843	1782	2159
80°	622	1746	1746
85°	477	1288	1454



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.4	3.1
10°-20°	325.5	8.8
20°-30°	495.5	13.4
30°-40°	601.7	16.3
40°-50°	635.7	17.2
50°-60°	599.9	16.3
60°-70°	498.8	13.5
70°-80°	328.1	8.9
80°-90°	89.4	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°	934.4	25.3
0°-40°	1536.1	41.7
0°-60°	2771.7	75.2
0°-90°	3688.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3688.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1197	1197	1197	1197	1197	
5°	1194	1194	1189	1194	1194	113
15°	1147	1149	1150	1161	1161	324
25°	1056	1062	1072	1090	1093	487
35°	928	939	960	985	993	581
45°	769	784	823	863	878	592
55°	582	607	672	735	758	518
65°	374	417	514	590	616	369
75°	162	236	343	406	415	175
85°	31	68	83	93	94	38
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°	1198.1	1196.6	1190.4	1196.6	1196.6
5°	1193.5	1193.5	1188.9	1193.5	1193.5
7.5°	1185.8	1185.8	1182.7	1188.9	1188.9
10°	1176.5	1176.5	1175.0	1182.7	1182.7
12.5°	1162.6	1164.2	1162.6	1171.9	1171.9
15°	1147.2	1148.7	1150.3	1161.1	1161.1
17.5°	1127.1	1130.2	1133.3	1145.6	1147.2
20°	1108.6	1110.1	1116.3	1130.2	1131.7
22.5°	1083.9	1088.5	1096.2	1110.1	1114.7
25°	1056.1	1062.2	1071.5	1090.0	1093.1
27.5°	1029.8	1034.5	1046.8	1066.9	1073.1
30°	997.4	1005.1	1020.6	1040.6	1048.4
32.5°	966.5	974.2	992.8	1014.4	1020.6
35°	927.9	938.7	960.3	985.1	992.8
37.5°	890.9	901.7	927.9	955.7	965.0
40°	852.3	864.6	892.4	924.8	937.2
42.5°	810.6	827.6	858.4	894.0	907.9
45°	768.9	784.3	822.9	863.1	878.5
47.5°	724.1	742.6	784.3	832.2	850.7
50°	676.3	699.4	747.3	799.8	819.8
52.5°	628.4	654.6	708.7	767.4	789.0
55°	582.1	606.8	671.6	734.9	758.1
57.5°	531.1	562.0	633.0	701.0	724.1
60°	478.6	512.6	594.4	665.4	690.2
62.5°	426.1	464.7	557.4	628.4	654.6
65°	373.6	416.9	514.1	589.8	616.0
67.5°	322.7	370.6	474.0	549.7	575.9
70°	264.0	324.2	430.8	504.9	531.1
72.5°	210.0	279.5	389.1	458.6	481.7
75°	162.1	236.2	342.8	406.1	415.3
77.5°	118.9	193.0	294.9	316.5	318.1
80°	80.3	154.4	225.4	222.3	225.4
82.5°	52.5	115.8	142.0	159.0	160.6
85°	30.9	67.9	83.4	92.6	94.2
87.5°	15.4	23.2	29.3	30.9	34.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)