

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: P313387

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CP250-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: P313387
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: 24FCZ2-70HE-UNV-L83050-HRP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 4880.0 lumens
Efficiency: N/A
Efficacy: 82.7 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

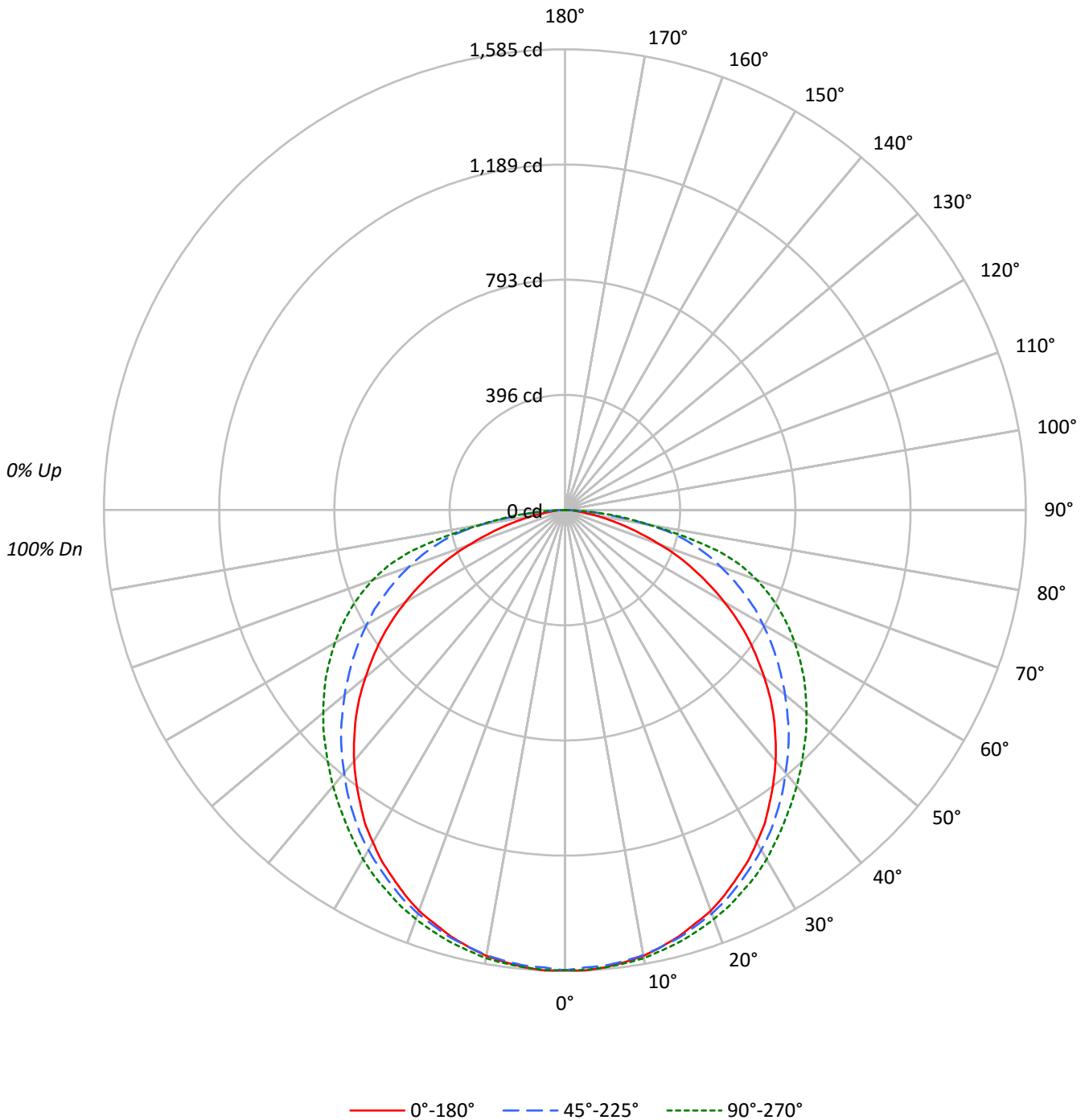
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2130	2130	2130
5°	2133	2125	2133
10°	2127	2124	2138
15°	2114	2120	2140
20°	2100	2115	2144
25°	2075	2105	2147
30°	2050	2098	2155
35°	2017	2087	2158
40°	1981	2074	2178
45°	1936	2072	2212
50°	1873	2070	2271
55°	1807	2085	2353
60°	1704	2117	2457
65°	1574	2166	2595
70°	1375	2242	2765
75°	1115	2358	2857
80°	823	2311	2311
85°	631	1703	1924



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	3.1
10°-20°	430.7	8.8
20°-30°	655.7	13.4
30°-40°	796.2	16.3
40°-50°	841.2	17.2
50°-60°	793.7	16.3
60°-70°	660.0	13.5
70°-80°	434.2	8.9
80°-90°	118.4	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°	1236.4	25.3
0°-40°	2032.6	41.7
0°-60°	3667.5	75.2
0°-90°	4880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1583	1583	1583	1583	1583	
5°	1579	1579	1573	1579	1579	150
15°	1518	1520	1522	1536	1536	428
25°	1397	1406	1418	1442	1446	645
35°	1228	1242	1271	1303	1314	769
45°	1017	1038	1089	1142	1162	784
55°	770	803	889	972	1003	686
65°	494	552	680	780	815	489
75°	214	313	454	537	550	231
85°	41	90	110	123	125	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1583.3	1583.3	1583.3	1583.3	1583.3
2.5°	1585.4	1583.3	1575.1	1583.3	1583.3
5°	1579.2	1579.2	1573.1	1579.2	1579.2
7.5°	1569.0	1569.0	1564.9	1573.1	1573.1
10°	1556.8	1556.8	1554.7	1564.9	1564.9
12.5°	1538.4	1540.4	1538.4	1550.6	1550.6
15°	1517.9	1520.0	1522.0	1536.3	1536.3
17.5°	1491.4	1495.5	1499.6	1515.9	1517.9
20°	1466.9	1468.9	1477.1	1495.5	1497.5
22.5°	1434.2	1440.3	1450.5	1468.9	1475.0
25°	1397.4	1405.6	1417.8	1442.4	1446.4
27.5°	1362.7	1368.8	1385.1	1411.7	1419.9
30°	1319.8	1330.0	1350.4	1377.0	1387.2
32.5°	1278.9	1289.1	1313.6	1342.2	1350.4
35°	1227.8	1242.1	1270.7	1303.4	1313.6
37.5°	1178.8	1193.1	1227.8	1264.6	1276.9
40°	1127.7	1144.1	1180.9	1223.8	1240.1
42.5°	1072.6	1095.0	1135.9	1182.9	1201.3
45°	1017.4	1037.8	1088.9	1142.0	1162.5
47.5°	958.2	982.7	1037.8	1101.2	1125.7
50°	894.8	925.5	988.8	1058.3	1084.8
52.5°	831.5	866.2	937.7	1015.4	1044.0
55°	770.2	802.9	888.7	972.5	1003.1
57.5°	702.8	743.6	837.6	927.5	958.2
60°	633.3	678.3	786.6	880.5	913.2
62.5°	563.9	614.9	737.5	831.5	866.2
65°	494.4	551.6	680.3	780.4	815.2
67.5°	427.0	490.3	627.2	727.3	762.0
70°	349.4	429.0	570.0	668.1	702.8
72.5°	277.8	369.8	514.8	606.8	637.4
75°	214.5	312.6	453.5	537.3	549.6
77.5°	157.3	255.4	390.2	418.8	420.9
80°	106.2	204.3	298.3	294.2	298.3
82.5°	69.5	153.2	188.0	210.4	212.5
85°	40.9	89.9	110.3	122.6	124.6
87.5°	20.4	30.6	38.8	40.9	44.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)