

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: P313376

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CP125-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: P313376
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-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 4893.0 lumens
Efficiency: N/A
Efficacy: 84.8 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

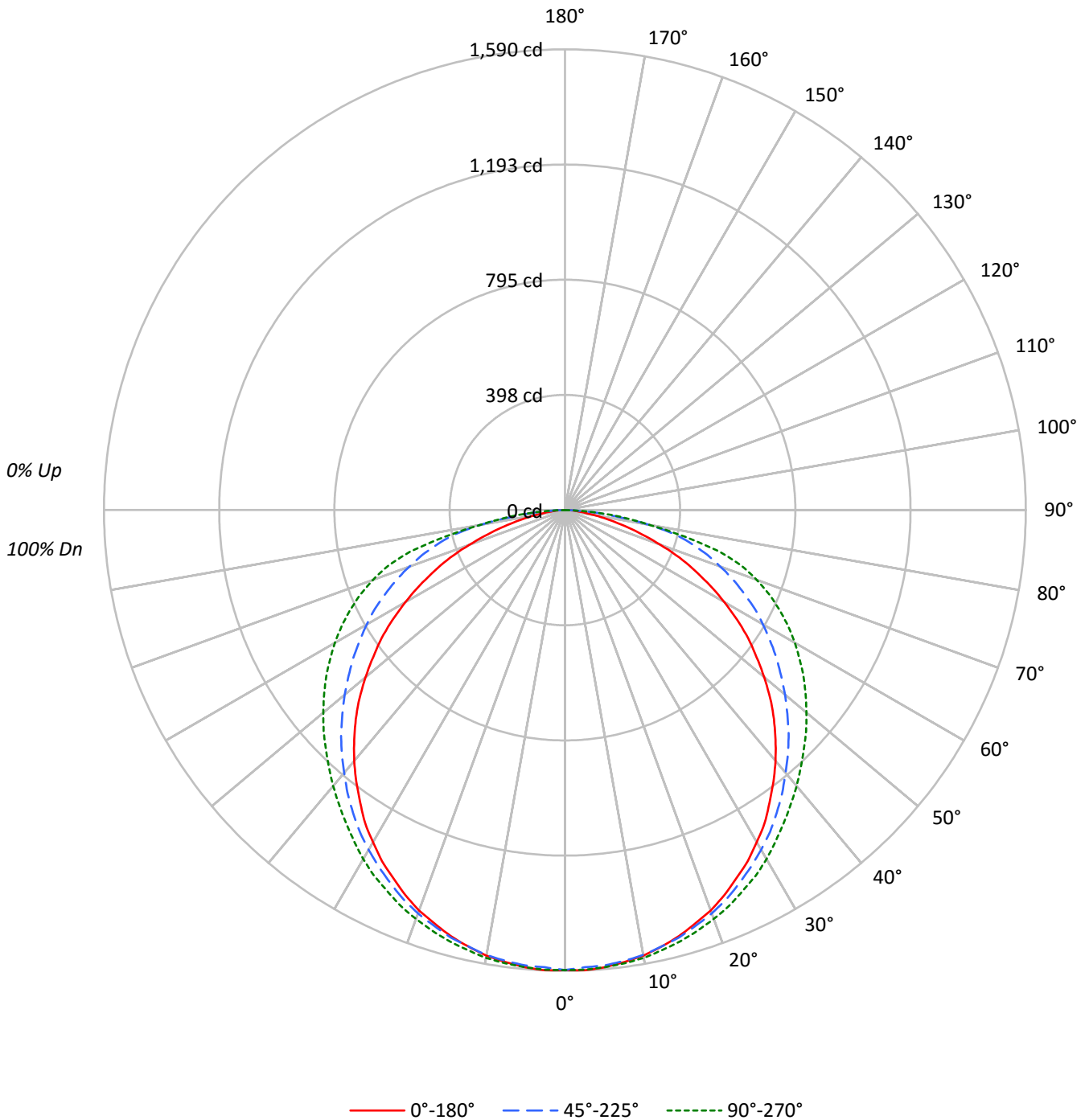
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2136	2136	2136
5°	2139	2130	2139
10°	2133	2130	2144
15°	2120	2126	2146
20°	2106	2121	2150
25°	2080	2110	2153
30°	2056	2104	2161
35°	2022	2093	2163
40°	1986	2080	2184
45°	1941	2077	2218
50°	1878	2075	2277
55°	1812	2090	2359
60°	1709	2122	2464
65°	1578	2172	2602
70°	1378	2248	2772
75°	1118	2364	2864
80°	825	2318	2318
85°	633	1707	1930



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.4	3.1
10°-20°	431.9	8.8
20°-30°	657.5	13.4
30°-40°	798.3	16.3
40°-50°	843.4	17.2
50°-60°	795.8	16.3
60°-70°	661.7	13.5
70°-80°	435.4	8.9
80°-90°	118.7	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°	1239.7	25.3
0°-40°	2038.0	41.7
0°-60°	3677.3	75.2
0°-90°	4893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4893.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1588	1588	1588	1588	1588	
5°	1583	1583	1577	1583	1583	150
15°	1522	1524	1526	1540	1540	429
25°	1401	1409	1422	1446	1450	646
35°	1231	1245	1274	1307	1317	771
45°	1020	1041	1092	1145	1166	786
55°	772	805	891	975	1006	688
65°	496	553	682	782	817	490
75°	215	313	455	539	551	232
85°	41	90	111	123	125	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1587.5	1587.5	1587.5	1587.5	1587.5
2.5°	1589.6	1587.5	1579.3	1587.5	1587.5
5°	1583.4	1583.4	1577.3	1583.4	1583.4
7.5°	1573.2	1573.2	1569.1	1577.3	1577.3
10°	1560.9	1560.9	1558.9	1569.1	1569.1
12.5°	1542.5	1544.5	1542.5	1554.8	1554.8
15°	1522.0	1524.0	1526.1	1540.4	1540.4
17.5°	1495.4	1499.5	1503.6	1519.9	1522.0
20°	1470.8	1472.8	1481.0	1499.5	1501.5
22.5°	1438.0	1444.1	1454.4	1472.8	1479.0
25°	1401.1	1409.3	1421.6	1446.2	1450.3
27.5°	1366.3	1372.5	1388.8	1415.5	1423.7
30°	1323.3	1333.5	1354.0	1380.6	1390.9
32.5°	1282.3	1292.6	1317.1	1345.8	1354.0
35°	1231.1	1245.4	1274.1	1306.9	1317.1
37.5°	1181.9	1196.3	1231.1	1268.0	1280.3
40°	1130.7	1147.1	1184.0	1227.0	1243.4
42.5°	1075.4	1098.0	1138.9	1186.0	1204.5
45°	1020.1	1040.6	1091.8	1145.1	1165.6
47.5°	960.7	985.3	1040.6	1104.1	1128.7
50°	897.2	927.9	991.4	1061.1	1087.7
52.5°	833.7	868.5	940.2	1018.1	1046.8
55°	772.3	805.0	891.1	975.1	1005.8
57.5°	704.7	745.6	839.9	930.0	960.7
60°	635.0	680.1	788.6	882.9	915.7
62.5°	565.4	616.6	739.5	833.7	868.5
65°	495.7	553.1	682.1	782.5	817.3
67.5°	428.1	491.6	628.9	729.2	764.1
70°	350.3	430.2	571.5	669.8	704.7
72.5°	278.6	370.8	516.2	608.4	639.1
75°	215.1	313.4	454.8	538.7	551.0
77.5°	157.7	256.1	391.3	419.9	422.0
80°	106.5	204.8	299.1	295.0	299.1
82.5°	69.6	153.6	188.5	211.0	213.0
85°	41.0	90.1	110.6	122.9	125.0
87.5°	20.5	30.7	38.9	41.0	45.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)