

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: P313371

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CA125-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: P313371
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-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 4990.0 lumens
Efficiency: N/A
Efficacy: 86.5 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

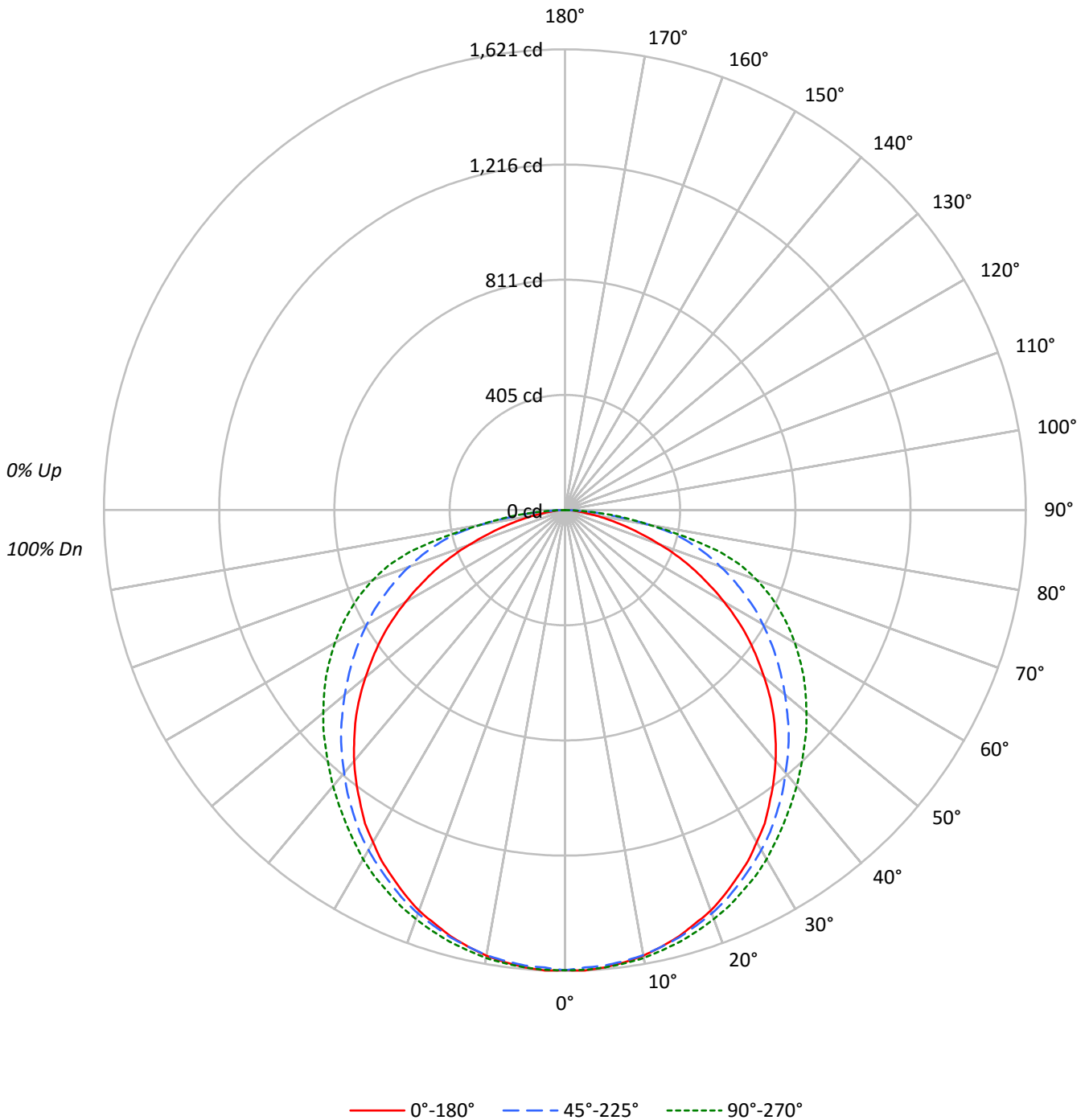
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2178	2178	2178
5°	2181	2173	2181
10°	2175	2172	2186
15°	2162	2168	2188
20°	2148	2163	2193
25°	2121	2152	2196
30°	2097	2145	2204
35°	2062	2134	2206
40°	2025	2121	2227
45°	1979	2119	2262
50°	1915	2116	2322
55°	1848	2132	2406
60°	1743	2164	2513
65°	1609	2215	2654
70°	1405	2293	2827
75°	1140	2411	2922
80°	841	2363	2363
85°	645	1741	1967



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	3.1
10°-20°	440.4	8.8
20°-30°	670.5	13.4
30°-40°	814.1	16.3
40°-50°	860.1	17.2
50°-60°	811.6	16.3
60°-70°	674.8	13.5
70°-80°	444.0	8.9
80°-90°	121.0	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°	1264.3	25.3
0°-40°	2078.4	41.7
0°-60°	3750.2	75.2
0°-90°	4990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1619	1619	1619	1619	1619	
5°	1615	1615	1609	1615	1615	153
15°	1552	1554	1556	1571	1571	438
25°	1429	1437	1450	1475	1479	659
35°	1256	1270	1299	1333	1343	786
45°	1040	1061	1114	1168	1189	801
55°	788	821	909	994	1026	701
65°	506	564	696	798	834	500
75°	219	320	464	549	562	236
85°	42	92	113	125	127	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1619.0	1619.0	1619.0	1619.0	1619.0
2.5°	1621.1	1619.0	1610.7	1619.0	1619.0
5°	1614.8	1614.8	1608.6	1614.8	1614.8
7.5°	1604.4	1604.4	1600.2	1608.6	1608.6
10°	1591.9	1591.9	1589.8	1600.2	1600.2
12.5°	1573.1	1575.1	1573.1	1585.6	1585.6
15°	1552.2	1554.2	1556.3	1571.0	1571.0
17.5°	1525.0	1529.2	1533.4	1550.1	1552.2
20°	1499.9	1502.0	1510.4	1529.2	1531.3
22.5°	1466.5	1472.8	1483.2	1502.0	1508.3
25°	1428.9	1437.3	1449.8	1474.9	1479.0
27.5°	1393.4	1399.7	1416.4	1443.5	1451.9
30°	1349.5	1360.0	1380.9	1408.0	1418.5
32.5°	1307.7	1318.2	1343.3	1372.5	1380.9
35°	1255.5	1270.1	1299.4	1332.8	1343.3
37.5°	1205.4	1220.0	1255.5	1293.1	1305.7
40°	1153.2	1169.9	1207.5	1251.3	1268.0
42.5°	1096.7	1119.7	1161.5	1209.6	1228.4
45°	1040.3	1061.2	1113.5	1167.8	1188.7
47.5°	979.8	1004.8	1061.2	1126.0	1151.1
50°	915.0	946.3	1011.1	1082.1	1109.3
52.5°	850.2	885.8	958.9	1038.3	1067.5
55°	787.6	821.0	908.7	994.4	1025.7
57.5°	718.6	760.4	856.5	948.4	979.8
60°	647.6	693.6	804.3	900.4	933.8
62.5°	576.6	628.8	754.1	850.2	885.8
65°	505.5	564.0	695.7	798.0	833.5
67.5°	436.6	501.4	641.3	743.7	779.2
70°	357.2	438.7	582.8	683.1	718.6
72.5°	284.1	378.1	526.4	620.4	651.8
75°	219.3	319.6	463.8	549.4	562.0
77.5°	160.9	261.1	399.0	428.3	430.3
80°	108.6	208.9	305.0	300.8	305.0
82.5°	71.0	156.7	192.2	215.2	217.3
85°	41.8	91.9	112.8	125.3	127.4
87.5°	20.9	31.3	39.7	41.8	46.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)