

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: P311092

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-W2A-U-6500K**

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: P311092
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: 24FCZ2-70HE-UNV-L82765-CA125-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 6500K 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: 6714.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

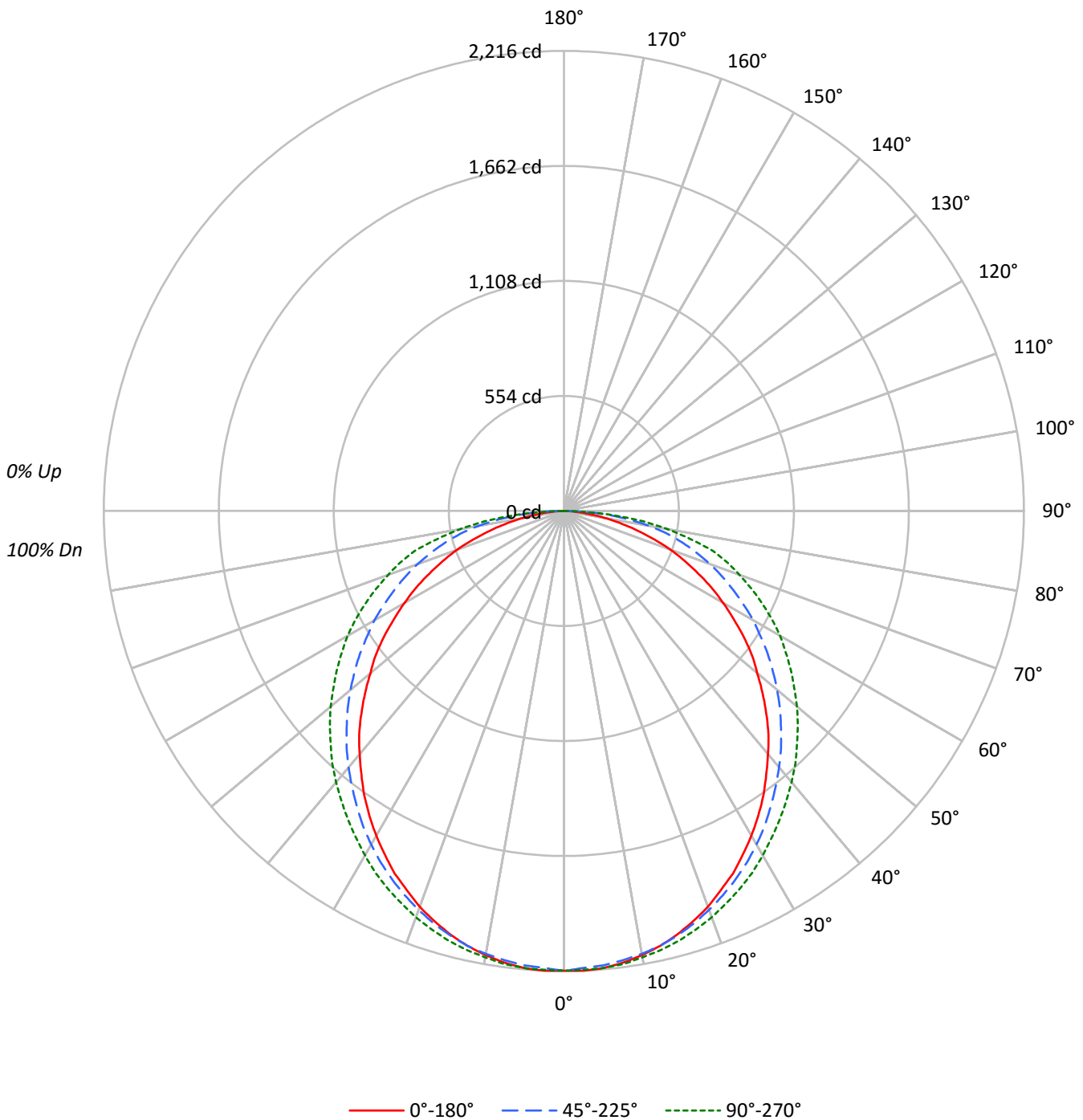
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2979	2979	2979
5°	2985	2967	2985
10°	2967	2958	2983
15°	2941	2948	2985
20°	2906	2928	2982
25°	2861	2907	2980
30°	2807	2883	2976
35°	2751	2854	2978
40°	2688	2833	2997
45°	2624	2814	3022
50°	2546	2807	3068
55°	2482	2811	3130
60°	2386	2835	3237
65°	2277	2865	3354
70°	2156	2953	3540
75°	1922	3080	3868
80°	1640	3262	3952
85°	1169	3233	3782



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.5	3.1
10°-20°	599.2	8.9
20°-30°	905.0	13.5
30°-40°	1090.7	16.2
40°-50°	1145.1	17.1
50°-60°	1071.3	16.0
60°-70°	884.7	13.2
70°-80°	602.8	9.0
80°-90°	205.6	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°	1713.7	25.5
0°-40°	2804.5	41.8
0°-60°	5020.8	74.8
0°-90°	6714.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6714.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2214	2214	2214	2214	2214	
5°	2210	2208	2196	2210	2210	210
15°	2112	2114	2116	2138	2143	595
25°	1927	1936	1958	1996	2007	887
35°	1675	1693	1738	1795	1813	1047
45°	1379	1408	1479	1559	1588	1063
55°	1058	1100	1198	1296	1334	944
65°	715	775	900	1014	1054	709
75°	370	454	592	704	744	394
85°	76	149	209	236	245	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2214.2	2214.2	2214.2	2214.2	2214.2
2.5°	2216.4	2214.2	2203.1	2214.2	2212.0
5°	2209.8	2207.5	2196.4	2209.8	2209.8
7.5°	2194.2	2194.2	2183.0	2198.6	2200.9
10°	2171.9	2171.9	2165.2	2183.0	2183.0
12.5°	2145.2	2145.2	2145.2	2163.0	2165.2
15°	2111.7	2114.0	2116.2	2138.5	2142.9
17.5°	2071.7	2076.1	2082.8	2109.5	2114.0
20°	2029.3	2033.8	2044.9	2076.1	2082.8
22.5°	1975.9	1987.0	2002.6	2038.2	2044.9
25°	1926.9	1935.8	1958.0	1995.9	2007.1
27.5°	1866.7	1880.1	1909.0	1949.1	1964.7
30°	1806.6	1819.9	1855.6	1902.4	1915.7
32.5°	1742.0	1762.0	1799.9	1848.9	1864.5
35°	1675.1	1693.0	1737.5	1795.4	1813.3
37.5°	1601.6	1626.1	1675.1	1737.5	1759.8
40°	1530.4	1557.1	1612.8	1679.6	1706.3
42.5°	1459.1	1485.8	1548.2	1623.9	1650.6
45°	1378.9	1407.8	1479.1	1559.3	1588.3
47.5°	1298.7	1334.3	1412.3	1496.9	1528.1
50°	1216.3	1256.4	1341.0	1430.1	1465.8
52.5°	1142.8	1180.6	1269.7	1365.5	1398.9
55°	1058.1	1100.4	1198.4	1296.5	1334.3
57.5°	971.2	1018.0	1122.7	1229.6	1267.5
60°	886.6	937.8	1053.6	1160.6	1202.9
62.5°	804.2	855.4	975.7	1087.1	1129.4
65°	715.1	775.2	899.9	1013.6	1053.6
67.5°	630.4	695.0	826.4	937.8	977.9
70°	548.0	610.4	750.7	859.8	899.9
72.5°	458.9	530.2	670.5	784.1	826.4
75°	369.8	454.4	592.5	703.9	744.0
77.5°	287.4	374.2	512.3	603.7	623.7
80°	211.6	300.7	421.0	485.6	510.1
82.5°	135.9	225.0	320.8	367.6	387.6
85°	75.7	149.2	209.4	236.1	245.0
87.5°	31.2	64.6	84.6	95.8	95.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)