

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: P311739

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P311739
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-65HE-UNV-L82765-S-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 6125.0 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

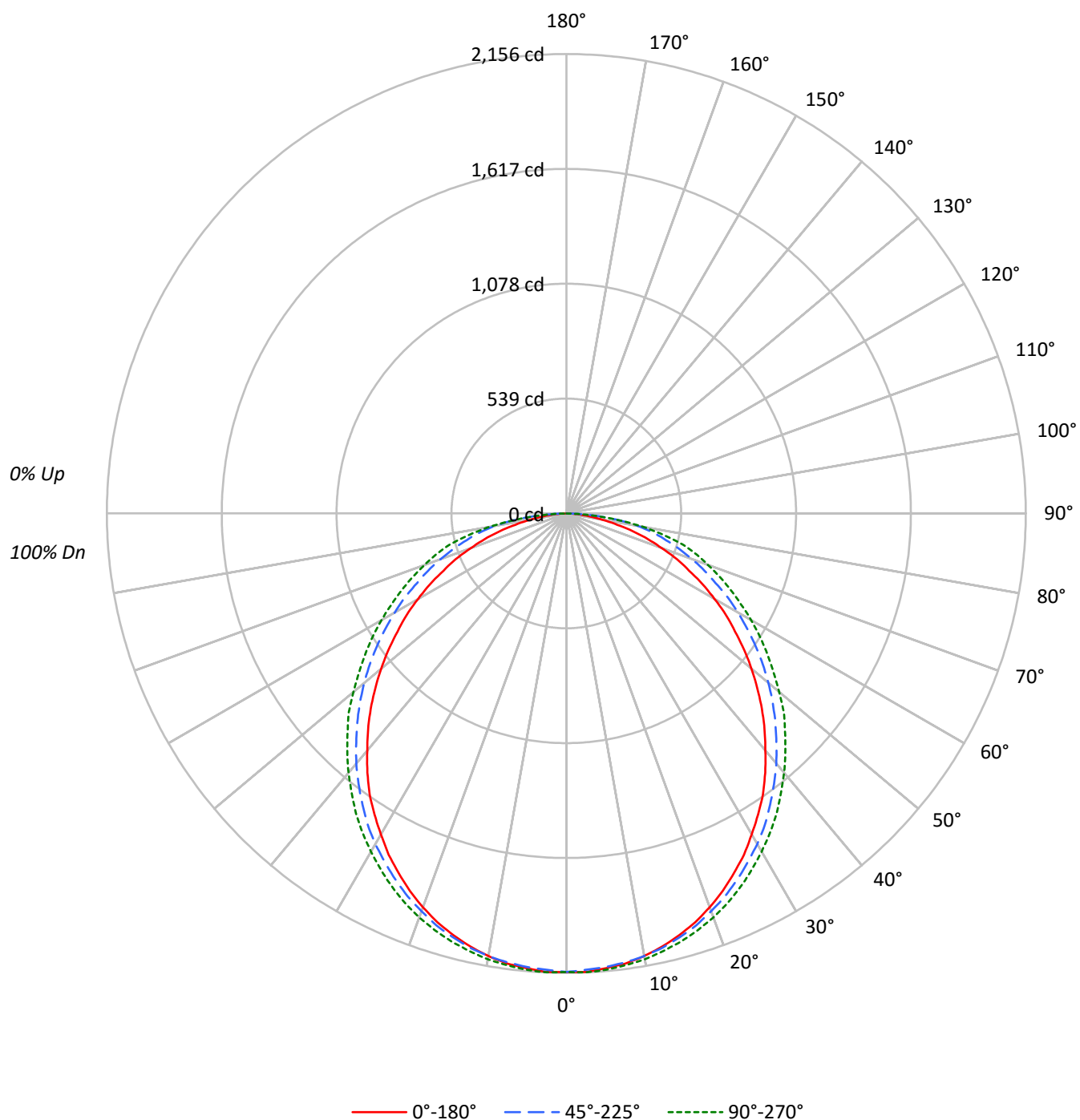
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2895	2895	2895
5°	2893	2885	2904
10°	2881	2881	2903
15°	2854	2867	2897
20°	2816	2844	2889
25°	2764	2816	2871
30°	2702	2784	2847
35°	2643	2739	2825
40°	2553	2693	2792
45°	2469	2640	2762
50°	2374	2590	2728
55°	2268	2542	2702
60°	2162	2503	2696
65°	2025	2459	2713
70°	1875	2472	2786
75°	1679	2518	2943
80°	1357	2669	2879
85°	1020	2343	2283



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.7	3.3
10°-20°	582.1	9.5
20°-30°	875.0	14.3
30°-40°	1042.2	17.0
40°-50°	1066.7	17.4
50°-60°	960.3	15.7
60°-70°	754.2	12.3
70°-80°	489.5	8.0
80°-90°	151.4	2.5
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°	1660.8	27.1
0°-40°	2703.0	44.1
0°-60°	4730.0	77.2
0°-90°	6125.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6125.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2152	2152	2152	2152	2152	
5°	2142	2146	2136	2148	2150	204
15°	2049	2054	2058	2076	2080	578
25°	1862	1877	1897	1928	1934	858
35°	1609	1628	1667	1708	1720	1004
45°	1298	1329	1387	1440	1451	1000
55°	967	1010	1084	1140	1152	867
65°	636	685	772	837	852	633
75°	323	385	484	551	566	342
85°	66	123	152	148	148	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2151.8	2151.8	2151.8	2151.8	2151.8
2.5°	2153.7	2153.7	2144.0	2153.7	2155.6
5°	2142.0	2145.9	2136.2	2147.9	2149.8
7.5°	2130.4	2130.4	2124.5	2136.2	2138.1
10°	2109.0	2110.9	2109.0	2122.6	2124.5
12.5°	2081.7	2085.6	2087.6	2101.2	2103.1
15°	2048.6	2054.5	2058.4	2075.9	2079.8
17.5°	2011.7	2017.5	2027.2	2046.7	2050.6
20°	1966.9	1974.7	1986.4	2011.7	2017.5
22.5°	1918.3	1926.1	1945.5	1968.9	1978.6
25°	1861.9	1877.4	1896.9	1928.0	1933.9
27.5°	1805.4	1819.1	1844.4	1877.4	1885.2
30°	1739.3	1760.7	1791.8	1824.9	1832.7
32.5°	1675.1	1696.5	1733.5	1768.5	1778.2
35°	1609.0	1628.4	1667.3	1708.2	1719.8
37.5°	1533.1	1558.4	1601.2	1642.0	1653.7
40°	1453.3	1484.4	1533.1	1575.9	1589.5
42.5°	1377.4	1410.5	1459.1	1505.8	1521.4
45°	1297.7	1328.8	1387.2	1439.7	1451.4
47.5°	1216.0	1251.0	1313.2	1365.8	1385.2
50°	1134.2	1171.2	1237.4	1291.8	1303.5
52.5°	1052.5	1091.4	1161.5	1219.8	1225.7
55°	966.9	1009.7	1083.7	1140.1	1151.8
57.5°	889.1	926.1	1005.8	1064.2	1077.8
60°	803.5	844.4	930.0	984.4	1001.9
62.5°	721.8	764.6	854.1	908.6	924.1
65°	636.2	684.8	772.4	836.6	852.1
67.5°	562.3	608.9	702.3	764.6	780.2
70°	476.7	529.2	628.4	692.6	708.2
72.5°	402.7	457.2	556.4	618.7	642.0
75°	323.0	385.2	484.4	550.6	566.1
77.5°	245.1	317.1	418.3	468.9	468.9
80°	175.1	251.0	344.4	367.7	371.6
82.5°	114.8	188.7	254.9	252.9	252.9
85°	66.1	122.6	151.8	147.9	147.9
87.5°	25.3	50.6	54.5	54.5	52.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)