

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: P311069

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-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: P311069
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: 24FCZ2-65HE-UNV-L82765-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 5536.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

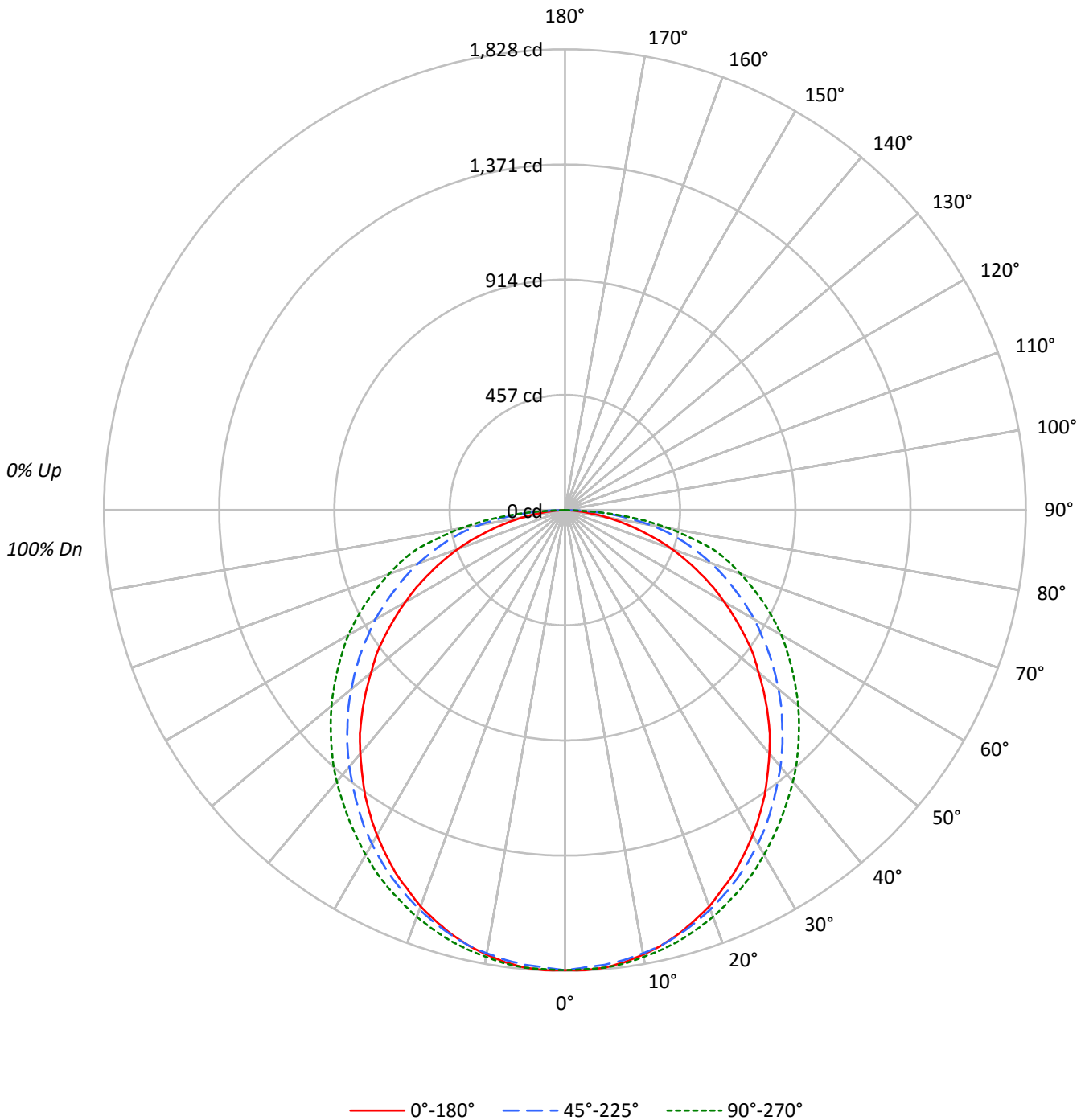
Input Watts (W): 53.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2456	2456	2456
5°	2461	2446	2461
10°	2447	2439	2459
15°	2425	2431	2461
20°	2396	2414	2459
25°	2359	2397	2457
30°	2314	2377	2454
35°	2269	2353	2456
40°	2216	2336	2471
45°	2163	2321	2492
50°	2099	2314	2530
55°	2047	2318	2581
60°	1967	2338	2669
65°	1877	2362	2766
70°	1777	2435	2919
75°	1585	2540	3189
80°	1352	2689	3259
85°	963	2666	3118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	3.1
10°-20°	494.1	8.9
20°-30°	746.2	13.5
30°-40°	899.4	16.2
40°-50°	944.2	17.1
50°-60°	883.3	16.0
60°-70°	729.5	13.2
70°-80°	497.1	9.0
80°-90°	169.5	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°	1413.1	25.5
0°-40°	2312.4	41.8
0°-60°	4139.9	74.8
0°-90°	5536.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5536.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1826	1826	1826	1826	1826	
5°	1822	1820	1811	1822	1822	173
15°	1741	1743	1745	1763	1767	491
25°	1589	1596	1614	1646	1655	731
35°	1381	1396	1433	1480	1495	863
45°	1137	1161	1220	1286	1310	877
55°	872	907	988	1069	1100	779
65°	590	639	742	836	869	585
75°	305	375	489	580	614	325
85°	62	123	173	195	202	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1825.7	1825.7	1825.7	1825.7	1825.7
2.5°	1827.6	1825.7	1816.5	1825.7	1823.9
5°	1822.1	1820.2	1811.0	1822.1	1822.1
7.5°	1809.2	1809.2	1800.0	1812.9	1814.7
10°	1790.8	1790.8	1785.3	1800.0	1800.0
12.5°	1768.8	1768.8	1768.8	1783.5	1785.3
15°	1741.2	1743.1	1744.9	1763.3	1766.9
17.5°	1708.2	1711.8	1717.4	1739.4	1743.1
20°	1673.3	1676.9	1686.1	1711.8	1717.4
22.5°	1629.2	1638.4	1651.2	1680.6	1686.1
25°	1588.8	1596.1	1614.5	1645.7	1654.9
27.5°	1539.2	1550.2	1574.1	1607.2	1620.0
30°	1489.6	1500.6	1530.0	1568.6	1579.6
32.5°	1436.3	1452.9	1484.1	1524.5	1537.4
35°	1381.2	1395.9	1432.7	1480.4	1495.1
37.5°	1320.6	1340.8	1381.2	1432.7	1451.0
40°	1261.8	1283.9	1329.8	1384.9	1406.9
42.5°	1203.1	1225.1	1276.5	1339.0	1361.0
45°	1136.9	1160.8	1219.6	1285.7	1309.6
47.5°	1070.8	1100.2	1164.5	1234.3	1260.0
50°	1002.9	1035.9	1105.7	1179.2	1208.6
52.5°	942.3	973.5	1046.9	1125.9	1153.5
55°	872.5	907.4	988.2	1069.0	1100.2
57.5°	800.8	839.4	925.7	1013.9	1045.1
60°	731.0	773.3	868.8	956.9	991.8
62.5°	663.1	705.3	804.5	896.3	931.2
65°	589.6	639.2	742.0	835.7	868.8
67.5°	519.8	573.1	681.4	773.3	806.3
70°	451.8	503.3	619.0	709.0	742.0
72.5°	378.4	437.1	552.9	646.5	681.4
75°	304.9	374.7	488.6	580.4	613.5
77.5°	236.9	308.6	422.5	497.8	514.3
80°	174.5	248.0	347.1	400.4	420.6
82.5°	112.0	185.5	264.5	303.1	319.6
85°	62.4	123.1	172.7	194.7	202.0
87.5°	25.7	53.3	69.8	79.0	79.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)