

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: NEO-RAY

Report Number: P231576

Luminaire Tested: **S124-DR-2-30-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231576
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29681)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124-DR-2-30-X-0048-1-U-DD-3-W
Description: DEFINE 4 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4289.0 lumens
Efficiency: N/A
Efficacy: 100.7 lumens/watt
Spacing Criteria (0/90/45): 1.39 / 1.24 / 1.51
Luminous Opening: Rectangular (W 3.92' x L: 0.31' x H: 0')
CIE Type: Direct

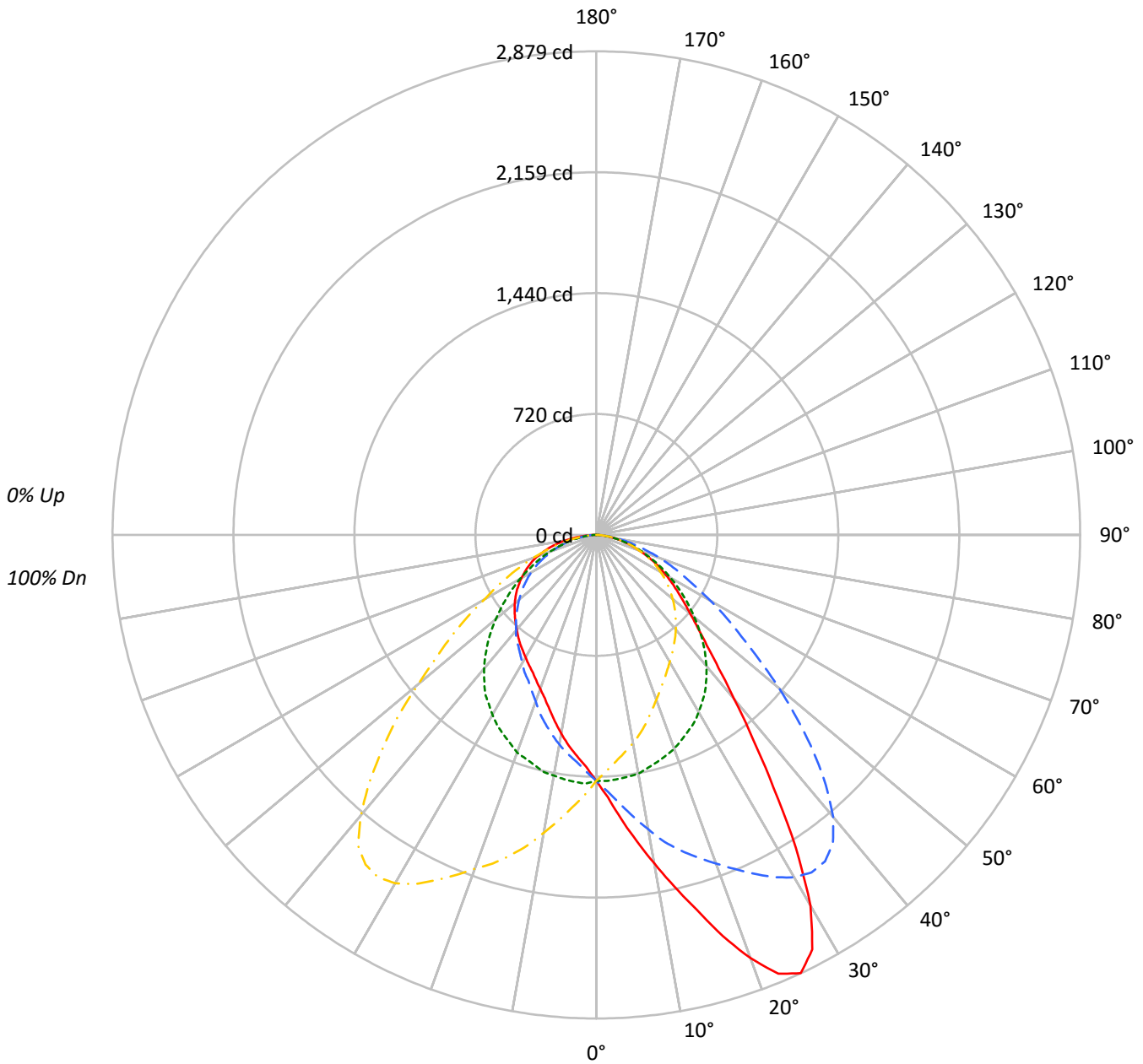
Input Watts (W): 42.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P231576

CATALOG NUMBER: S124-DR-2-30-X-0048-1-U-DD-3-W

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



TEST NUMBER: P231576

CATALOG NUMBER: S124-DR-2-30-X-0048-1-U-DD-3-W

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	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13125	13125	13125	13125
5°	15258	13125	11888	13273
10°	18063	13129	10934	13241
15°	21424	12981	9972	13158
20°	25569	12914	9303	13149
25°	28464	12757	8891	12946
30°	26363	12603	8712	12787
35°	20091	12355	8645	12623
40°	14901	11922	8622	12160
45°	11775	11344	8684	11585
50°	10143	10617	8833	10883
55°	9237	9855	9025	10133
60°	8570	9108	9229	9425
65°	7945	8320	9505	8581
70°	7210	7532	9780	7781
75°	6415	6557	9763	6744
80°	5413	5346	9423	5764
85°	3927	3783	8688	4760



TEST NUMBER: P231576

CATALOG NUMBER: S124-DR-2-30-X-0048-1-U-DD-3-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.7	3.3
10°-20°	441.2	10.3
20°-30°	733.1	17.1
30°-40°	853.3	19.9
40°-50°	768.3	17.9
50°-60°	617.6	14.4
60°-70°	435.6	10.2
70°-80°	235.0	5.5
80°-90°	62.2	1.4
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°	1317.0	30.7
0°-40°	2170.3	50.6
0°-60°	3556.2	82.9
0°-90°	4289.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4289.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1465	1465	1465	1465	1465	
5°	1696	1459	1322	1476	1696	171
15°	2309	1399	1075	1418	2309	669
25°	2879	1290	899	1309	2879	1283
35°	1837	1130	790	1154	1837	1159
45°	929	895	685	914	929	734
55°	591	631	578	649	591	532
65°	375	392	448	405	375	371
75°	185	189	282	195	185	197
85°	38	37	84	46	38	47
90°	0	0	0	0	0	



TEST NUMBER: P231576

CATALOG NUMBER: S124-DR-2-30-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7
2.5°	1562.8	1550.5	1528.7	1489.2	1466.1	1422.5	1404.7	1391.1	1381.6	1381.6	1408.8
5°	1696.3	1658.2	1605.0	1523.3	1459.2	1387.0	1351.6	1328.4	1321.6	1321.6	1355.7
7.5°	1838.0	1783.5	1692.2	1557.3	1451.1	1351.6	1303.9	1273.9	1264.4	1268.5	1312.1
10°	1985.2	1913.0	1779.4	1595.5	1442.9	1321.6	1257.6	1215.4	1201.7	1211.3	1267.1
12.5°	2143.2	2043.8	1872.1	1617.3	1419.7	1279.4	1208.5	1152.7	1137.7	1150.0	1218.1
15°	2309.4	2185.5	1945.7	1640.5	1399.3	1241.2	1154.0	1090.0	1075.0	1091.4	1166.3
17.5°	2504.3	2338.1	2013.8	1658.2	1377.5	1201.7	1095.5	1035.5	1020.5	1032.8	1115.9
20°	2681.4	2492.0	2081.9	1669.1	1354.3	1162.2	1043.7	986.5	975.6	986.5	1054.6
22.5°	2827.2	2639.2	2152.8	1659.5	1323.0	1114.5	994.6	946.9	936.0	941.5	1004.2
25°	2879.0	2752.3	2226.3	1639.1	1290.3	1061.4	951.0	914.2	899.3	906.1	957.8
27.5°	2782.2	2770.0	2297.2	1609.1	1260.3	1019.2	911.5	877.5	870.6	876.1	923.8
30°	2547.9	2674.6	2354.4	1573.7	1218.1	974.2	873.4	846.1	842.0	854.3	880.2
32.5°	2208.6	2456.6	2381.7	1528.7	1174.5	926.5	837.9	814.8	814.8	817.5	843.4
35°	1836.7	2155.5	2372.1	1477.0	1129.5	882.9	803.9	786.2	790.3	784.8	809.3
37.5°	1527.4	1831.2	2312.2	1429.3	1075.0	843.4	769.8	756.2	764.4	757.6	783.4
40°	1273.9	1535.5	2190.9	1373.4	1019.2	799.8	735.8	727.6	737.1	730.3	742.6
42.5°	1076.4	1290.3	2022.0	1314.8	957.8	758.9	700.3	697.6	711.2	700.3	707.1
45°	929.2	1092.7	1827.1	1254.9	895.2	718.0	664.9	669.0	685.3	671.7	673.1
47.5°	816.1	940.1	1618.7	1186.7	827.0	677.2	629.5	639.0	659.5	641.7	636.3
50°	727.6	820.2	1419.7	1113.2	761.6	636.3	592.7	606.3	633.6	611.8	599.5
52.5°	655.4	723.5	1220.8	1035.5	696.2	592.7	555.9	576.3	606.3	583.2	562.7
55°	591.3	643.1	1053.2	955.1	630.8	549.1	517.8	545.0	577.7	551.8	525.9
57.5°	532.7	573.6	915.6	872.0	569.5	504.1	481.0	509.6	546.4	519.1	487.8
60°	478.2	508.2	783.4	779.4	508.2	459.2	441.5	474.2	515.0	483.7	448.3
62.5°	425.1	449.6	662.2	686.7	448.3	412.8	401.9	437.4	481.0	446.9	407.4
65°	374.7	393.8	562.7	598.1	392.4	365.2	359.7	399.2	448.3	407.4	365.2
67.5°	322.9	337.9	481.0	512.3	333.8	316.1	316.1	359.7	412.8	367.9	321.6
70°	275.2	283.4	397.9	426.5	287.5	271.1	271.1	316.1	373.3	324.3	279.3
72.5°	228.9	235.7	320.2	344.7	237.1	224.8	230.3	275.2	327.0	283.4	237.1
75°	185.3	189.4	248.0	271.1	189.4	181.2	188.0	234.4	282.0	241.2	196.2
77.5°	144.4	145.8	190.8	204.4	144.4	140.3	147.2	194.8	233.0	197.6	155.3
80°	104.9	106.3	136.3	145.8	103.6	102.2	110.4	152.6	182.6	155.3	117.2
82.5°	68.1	70.9	91.3	94.0	66.8	68.1	76.3	110.4	132.2	113.1	83.1
85°	38.2	39.5	51.8	51.8	36.8	39.5	47.7	68.1	84.5	73.6	53.1
87.5°	15.0	15.0	20.4	20.4	15.0	17.7	21.8	36.8	42.2	38.2	27.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P231576

CATALOG NUMBER: S124-DR-2-30-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1464.7	1464.7	1464.7	1464.7	1464.7	1464.7
2.5°	1426.5	1482.4	1504.2	1547.8	1562.8	1562.8
5°	1392.5	1475.6	1539.6	1626.8	1674.5	1696.3
7.5°	1357.1	1467.4	1576.4	1712.7	1804.0	1838.0
10°	1321.6	1455.2	1611.8	1799.9	1938.8	1985.2
12.5°	1295.7	1445.6	1654.1	1893.9	2075.1	2143.2
15°	1248.1	1418.4	1667.7	1974.3	2214.1	2309.4
17.5°	1209.9	1396.6	1689.5	2050.6	2372.1	2504.3
20°	1166.3	1378.9	1697.7	2114.6	2537.0	2681.4
22.5°	1126.8	1342.1	1700.4	2192.3	2686.9	2827.2
25°	1072.3	1309.4	1678.6	2268.6	2790.4	2879.0
27.5°	1023.2	1278.0	1650.0	2343.5	2802.7	2782.2
30°	983.7	1235.8	1620.0	2393.9	2696.4	2547.9
32.5°	932.0	1192.2	1565.5	2417.1	2451.1	2208.6
35°	888.4	1154.0	1517.8	2395.3	2136.4	1836.7
37.5°	852.9	1095.5	1470.1	2329.9	1809.4	1527.4
40°	805.2	1039.6	1412.9	2178.6	1517.8	1273.9
42.5°	764.4	978.3	1353.0	2000.2	1273.9	1076.4
45°	723.5	914.2	1284.8	1797.1	1081.8	929.2
47.5°	681.3	850.2	1215.4	1603.7	932.0	816.1
50°	640.4	780.7	1147.2	1381.6	814.8	727.6
52.5°	599.5	714.0	1066.8	1200.4	719.4	655.4
55°	557.3	648.6	975.6	1051.9	640.4	591.3
57.5°	512.3	588.6	887.0	907.4	569.5	532.7
60°	468.7	525.9	803.9	769.8	505.5	478.2
62.5°	422.4	460.5	708.5	669.0	446.9	425.1
65°	376.1	404.7	618.6	569.5	391.0	374.7
67.5°	327.0	352.9	531.4	479.6	335.2	322.9
70°	278.0	297.0	444.2	399.2	284.8	275.2
72.5°	234.4	241.2	363.8	321.6	237.1	228.9
75°	189.4	194.8	287.5	256.2	190.8	185.3
77.5°	151.2	152.6	220.7	196.2	148.5	144.4
80°	109.0	111.7	158.1	143.1	109.0	104.9
82.5°	76.3	74.9	106.3	96.7	76.3	68.1
85°	46.3	46.3	62.7	57.2	42.2	38.2
87.5°	23.2	23.2	28.6	25.9	17.7	15.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)