

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: P231572

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231572
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-1-30-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

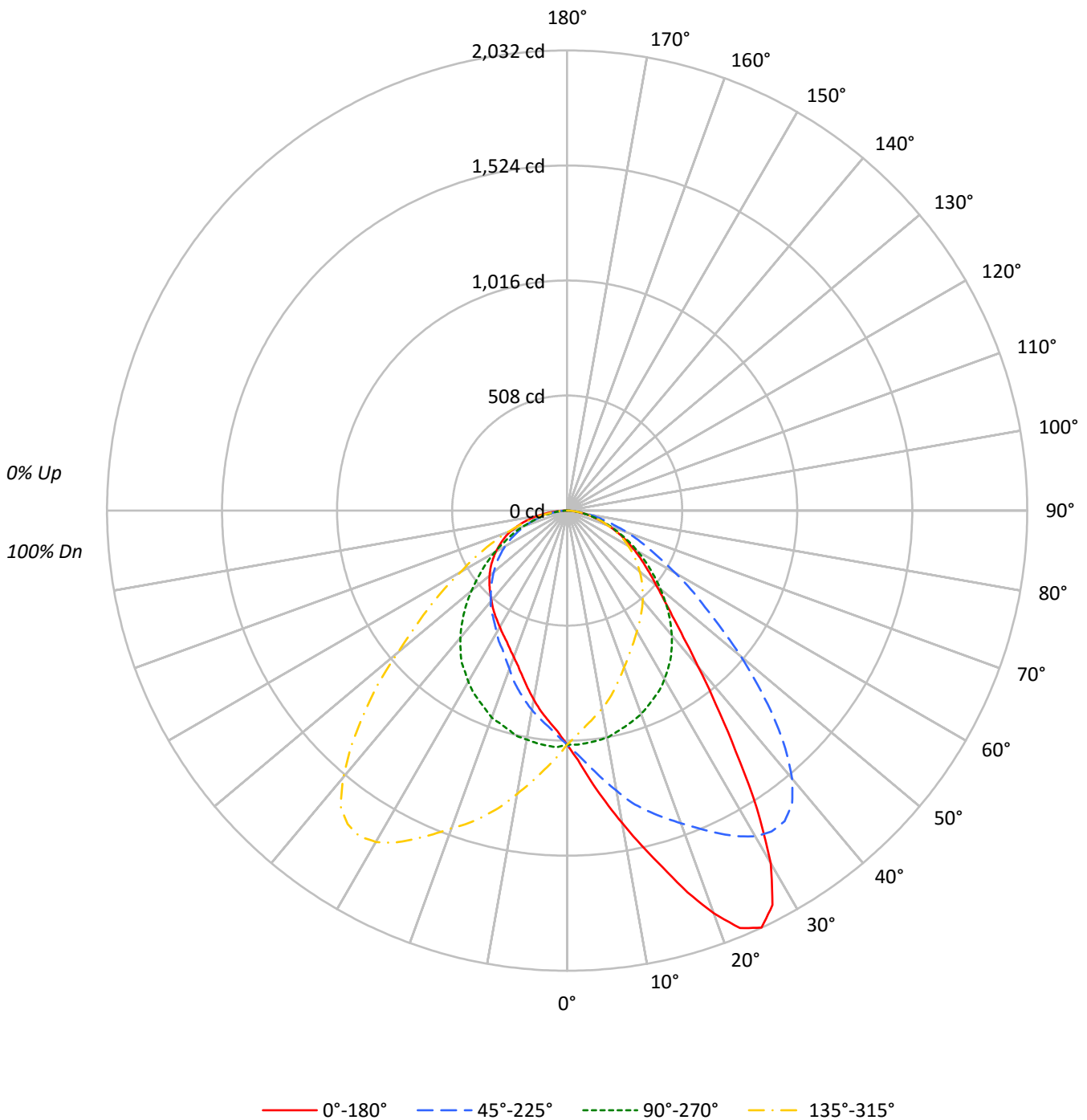
Lumens per Lamp: N/A
Luminaire Lumens: 3026.8 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Spacing Criteria (0/90/45): 1.39 / 1.24 / 1.51
Luminous Opening: Rectangular (W 3.92' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 27.9
Input Voltage (V): 120
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	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	32	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°	9263	9263	9263	9263
5°	10768	9263	8389	9366
10°	12747	9265	7717	9344
15°	15119	9161	7038	9286
20°	18044	9114	6565	9279
25°	20087	9003	6274	9136
30°	18605	8894	6148	9023
35°	14179	8719	6101	8909
40°	10516	8413	6085	8582
45°	8310	8005	6130	8176
50°	7158	7493	6233	7681
55°	6519	6955	6369	7150
60°	6048	6428	6514	6652
65°	5606	5871	6706	6055
70°	5088	5316	6903	5491
75°	4528	4629	6890	4760
80°	3819	3772	6646	4066
85°	2766	2673	6128	3362



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	3.3
10°-20°	311.3	10.3
20°-30°	517.4	17.1
30°-40°	602.2	19.9
40°-50°	542.2	17.9
50°-60°	435.8	14.4
60°-70°	307.4	10.2
70°-80°	165.8	5.5
80°-90°	43.9	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°	929.4	30.7
0°-40°	1531.6	50.6
0°-60°	2509.7	82.9
0°-90°	3026.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3026.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1034	1034	1034	1034	1034	
5°	1197	1030	933	1041	1197	120
15°	1630	988	759	1001	1630	472
25°	2032	911	635	924	2032	906
35°	1296	797	558	814	1296	818
45°	656	632	484	645	656	518
55°	417	445	408	458	417	376
65°	264	277	316	286	264	262
75°	131	134	199	138	131	139
85°	27	26	60	33	27	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7
2.5°	1102.9	1094.2	1078.8	1051.0	1034.6	1003.8	991.3	981.7	975.0	975.0	994.2
5°	1197.1	1170.2	1132.7	1075.0	1029.8	978.8	953.8	937.5	932.7	932.7	956.7
7.5°	1297.1	1258.7	1194.2	1099.0	1024.0	953.8	920.2	899.0	892.3	895.2	926.0
10°	1401.0	1350.0	1255.8	1126.0	1018.3	932.7	887.5	857.7	848.1	854.8	894.2
12.5°	1512.5	1442.3	1321.2	1141.3	1001.9	902.9	852.9	813.5	802.9	811.5	859.6
15°	1629.8	1542.3	1373.1	1157.7	987.5	876.0	814.4	769.2	758.7	770.2	823.1
17.5°	1767.3	1650.0	1421.2	1170.2	972.1	848.1	773.1	730.8	720.2	728.8	787.5
20°	1892.3	1758.7	1469.2	1177.9	955.8	820.2	736.5	696.2	688.5	696.2	744.2
22.5°	1995.2	1862.5	1519.2	1171.2	933.7	786.5	701.9	668.3	660.6	664.4	708.7
25°	2031.7	1942.3	1571.2	1156.7	910.6	749.0	671.2	645.2	634.6	639.4	676.0
27.5°	1963.5	1954.8	1621.2	1135.6	889.4	719.2	643.3	619.2	614.4	618.3	651.9
30°	1798.1	1887.5	1661.5	1110.6	859.6	687.5	616.3	597.1	594.2	602.9	621.2
32.5°	1558.7	1733.7	1680.8	1078.8	828.8	653.8	591.3	575.0	575.0	576.9	595.2
35°	1296.2	1521.2	1674.0	1042.3	797.1	623.1	567.3	554.8	557.7	553.8	571.2
37.5°	1077.9	1292.3	1631.7	1008.7	758.7	595.2	543.3	533.7	539.4	534.6	552.9
40°	899.0	1083.7	1546.2	969.2	719.2	564.4	519.2	513.5	520.2	515.4	524.0
42.5°	759.6	910.6	1426.9	927.9	676.0	535.6	494.2	492.3	501.9	494.2	499.0
45°	655.8	771.2	1289.4	885.6	631.7	506.7	469.2	472.1	483.7	474.0	475.0
47.5°	576.0	663.5	1142.3	837.5	583.7	477.9	444.2	451.0	465.4	452.9	449.0
50°	513.5	578.8	1001.9	785.6	537.5	449.0	418.3	427.9	447.1	431.7	423.1
52.5°	462.5	510.6	861.5	730.8	491.3	418.3	392.3	406.7	427.9	411.5	397.1
55°	417.3	453.8	743.3	674.0	445.2	387.5	365.4	384.6	407.7	389.4	371.2
57.5°	376.0	404.8	646.2	615.4	401.9	355.8	339.4	359.6	385.6	366.3	344.2
60°	337.5	358.7	552.9	550.0	358.7	324.0	311.5	334.6	363.5	341.3	316.3
62.5°	300.0	317.3	467.3	484.6	316.3	291.3	283.7	308.7	339.4	315.4	287.5
65°	264.4	277.9	397.1	422.1	276.9	257.7	253.8	281.7	316.3	287.5	257.7
67.5°	227.9	238.5	339.4	361.5	235.6	223.1	223.1	253.8	291.3	259.6	226.9
70°	194.2	200.0	280.8	301.0	202.9	191.3	191.3	223.1	263.5	228.8	197.1
72.5°	161.5	166.3	226.0	243.3	167.3	158.7	162.5	194.2	230.8	200.0	167.3
75°	130.8	133.7	175.0	191.3	133.7	127.9	132.7	165.4	199.0	170.2	138.5
77.5°	101.9	102.9	134.6	144.2	101.9	99.0	103.8	137.5	164.4	139.4	109.6
80°	74.0	75.0	96.2	102.9	73.1	72.1	77.9	107.7	128.8	109.6	82.7
82.5°	48.1	50.0	64.4	66.3	47.1	48.1	53.8	77.9	93.3	79.8	58.7
85°	26.9	27.9	36.5	36.5	26.0	27.9	33.7	48.1	59.6	51.9	37.5
87.5°	10.6	10.6	14.4	14.4	10.6	12.5	15.4	26.0	29.8	26.9	19.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1033.7	1033.7	1033.7	1033.7	1033.7	1033.7
2.5°	1006.7	1046.2	1061.5	1092.3	1102.9	1102.9
5°	982.7	1041.3	1086.5	1148.1	1181.7	1197.1
7.5°	957.7	1035.6	1112.5	1208.7	1273.1	1297.1
10°	932.7	1026.9	1137.5	1270.2	1368.3	1401.0
12.5°	914.4	1020.2	1167.3	1336.5	1464.4	1512.5
15°	880.8	1001.0	1176.9	1393.3	1562.5	1629.8
17.5°	853.8	985.6	1192.3	1447.1	1674.0	1767.3
20°	823.1	973.1	1198.1	1492.3	1790.4	1892.3
22.5°	795.2	947.1	1200.0	1547.1	1896.2	1995.2
25°	756.7	924.0	1184.6	1601.0	1969.2	2031.7
27.5°	722.1	901.9	1164.4	1653.8	1977.9	1963.5
30°	694.2	872.1	1143.3	1689.4	1902.9	1798.1
32.5°	657.7	841.3	1104.8	1705.8	1729.8	1558.7
35°	626.9	814.4	1071.2	1690.4	1507.7	1296.2
37.5°	601.9	773.1	1037.5	1644.2	1276.9	1077.9
40°	568.3	733.7	997.1	1537.5	1071.2	899.0
42.5°	539.4	690.4	954.8	1411.5	899.0	759.6
45°	510.6	645.2	906.7	1268.3	763.5	655.8
47.5°	480.8	600.0	857.7	1131.7	657.7	576.0
50°	451.9	551.0	809.6	975.0	575.0	513.5
52.5°	423.1	503.8	752.9	847.1	507.7	462.5
55°	393.3	457.7	688.5	742.3	451.9	417.3
57.5°	361.5	415.4	626.0	640.4	401.9	376.0
60°	330.8	371.2	567.3	543.3	356.7	337.5
62.5°	298.1	325.0	500.0	472.1	315.4	300.0
65°	265.4	285.6	436.5	401.9	276.0	264.4
67.5°	230.8	249.0	375.0	338.5	236.5	227.9
70°	196.2	209.6	313.5	281.7	201.0	194.2
72.5°	165.4	170.2	256.7	226.9	167.3	161.5
75°	133.7	137.5	202.9	180.8	134.6	130.8
77.5°	106.7	107.7	155.8	138.5	104.8	101.9
80°	76.9	78.8	111.5	101.0	76.9	74.0
82.5°	53.8	52.9	75.0	68.3	53.8	48.1
85°	32.7	32.7	44.2	40.4	29.8	26.9
87.5°	16.3	16.3	20.2	18.3	12.5	10.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)