

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: P231575

Luminaire Tested: **S124-DR-2-27-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231575
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-2-27-X-0048-1-U-DD-3-W
Description: DEFINE 4 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

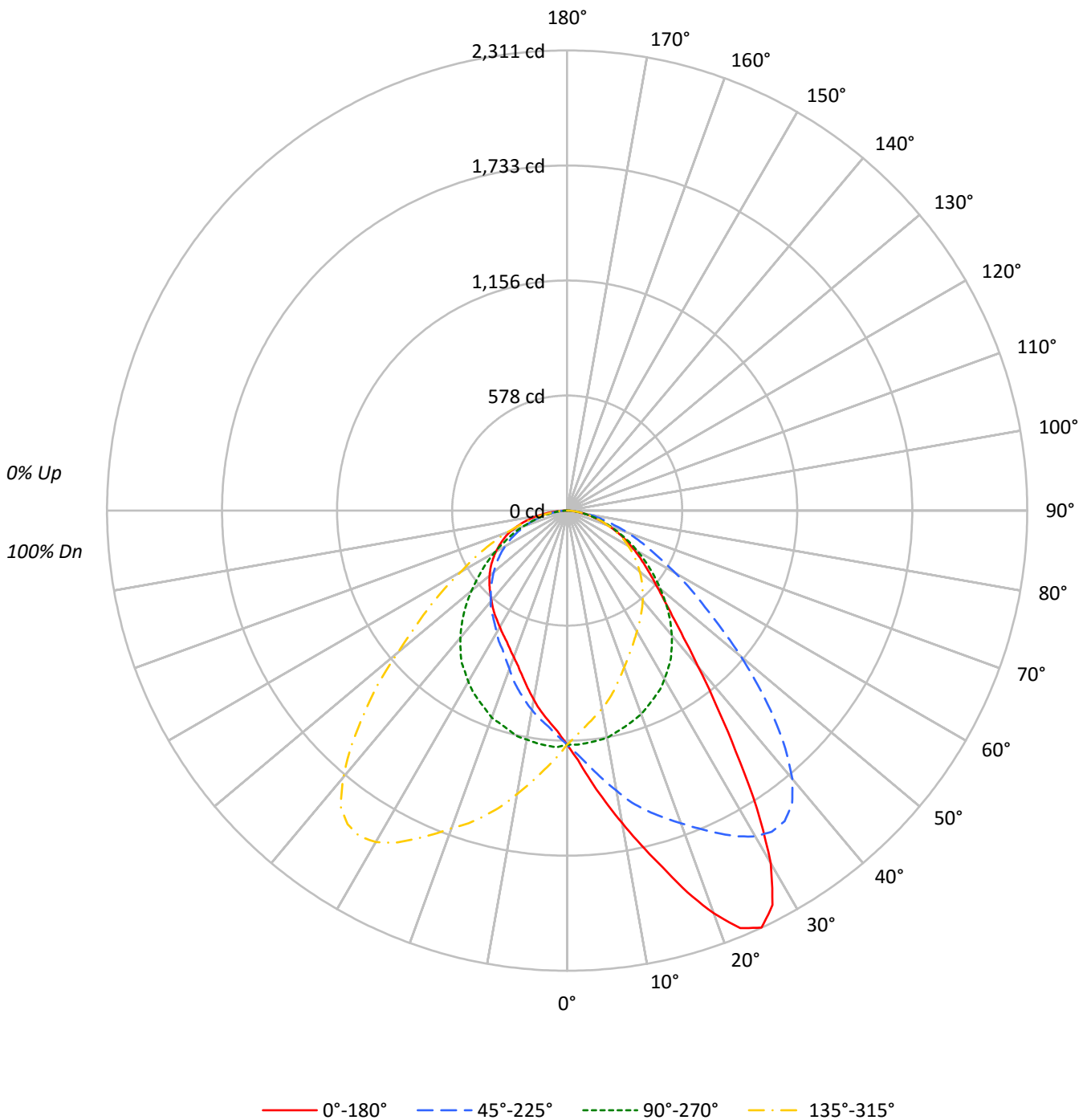
Lumens per Lamp: N/A
Luminaire Lumens: 3442.9 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.39 / 1.24 / 1.51
Luminous Opening: Rectangular (W 3.92' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 42.6
Input Voltage (V): 120
Input Current (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°	10535	10535	10535	10535
5°	12248	10537	9543	10654
10°	14500	10539	8778	10628
15°	17198	10420	8005	10562
20°	20525	10367	7467	10554
25°	22849	10241	7137	10392
30°	21162	10117	6993	10264
35°	16127	9918	6940	10134
40°	11962	9569	6921	9761
45°	9452	9106	6971	9300
50°	8141	8523	7090	8736
55°	7416	7911	7244	8133
60°	6880	7312	7409	7566
65°	6378	6679	7629	6887
70°	5787	6047	7852	6246
75°	5148	5262	7838	5415
80°	4345	4288	7565	4629
85°	3146	3033	6971	3825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.6	3.3
10°-20°	354.1	10.3
20°-30°	588.5	17.1
30°-40°	685.0	19.9
40°-50°	616.8	17.9
50°-60°	495.7	14.4
60°-70°	349.7	10.2
70°-80°	188.6	5.5
80°-90°	49.9	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°	1057.2	30.7
0°-40°	1742.2	50.6
0°-60°	2854.7	82.9
0°-90°	3442.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3442.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1176	1176	1176	1176	1176	
5°	1362	1171	1061	1184	1362	137
15°	1854	1123	863	1139	1854	537
25°	2311	1036	722	1051	2311	1030
35°	1474	907	634	926	1474	931
45°	746	719	550	734	746	590
55°	475	506	464	521	475	427
65°	301	315	360	325	301	298
75°	149	152	226	156	149	158
85°	31	30	68	37	31	38
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°	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7
2.5°	1254.5	1244.7	1227.2	1195.4	1176.8	1141.8	1127.6	1116.7	1109.0	1109.0	1130.9
5°	1361.7	1331.1	1288.4	1222.8	1171.4	1113.4	1085.0	1066.4	1060.9	1060.9	1088.3
7.5°	1475.4	1431.7	1358.4	1250.1	1164.8	1085.0	1046.7	1022.6	1015.0	1018.3	1053.3
10°	1593.6	1535.6	1428.4	1280.7	1158.3	1060.9	1009.5	975.6	964.7	972.3	1017.2
12.5°	1720.4	1640.6	1502.8	1298.2	1139.7	1027.0	970.1	925.3	913.3	923.1	977.8
15°	1853.9	1754.3	1561.8	1316.8	1123.3	996.4	926.4	875.0	862.9	876.1	936.2
17.5°	2010.3	1876.8	1616.5	1331.1	1105.8	964.7	879.4	831.2	819.2	829.0	895.8
20°	2152.4	2000.4	1671.2	1339.8	1087.2	932.9	837.8	791.9	783.1	791.9	846.5
22.5°	2269.5	2118.5	1728.1	1332.2	1062.0	894.7	798.4	760.1	751.4	755.8	806.1
25°	2311.0	2209.3	1787.1	1315.7	1035.8	852.0	763.4	733.9	721.9	727.3	768.9
27.5°	2233.4	2223.5	1844.0	1291.7	1011.7	818.1	731.7	704.4	698.9	703.3	741.5
30°	2045.3	2147.0	1889.9	1263.2	977.8	782.0	701.1	679.2	675.9	685.8	706.5
32.5°	1772.9	1972.0	1911.8	1227.2	942.8	743.7	672.6	654.0	654.0	656.2	677.0
35°	1474.3	1730.3	1904.2	1185.6	906.7	708.7	645.3	631.1	634.4	630.0	649.7
37.5°	1226.1	1470.0	1856.0	1147.3	862.9	677.0	618.0	607.0	613.6	608.1	628.9
40°	1022.6	1232.6	1758.7	1102.5	818.1	642.0	590.6	584.0	591.7	586.2	596.1
42.5°	864.0	1035.8	1623.1	1055.4	768.9	609.2	562.2	560.0	570.9	562.2	567.6
45°	745.9	877.2	1466.7	1007.3	718.6	576.4	533.7	537.0	550.1	539.2	540.3
47.5°	655.1	754.7	1299.3	952.6	663.9	543.6	505.3	513.0	529.4	515.1	510.8
50°	584.0	658.4	1139.7	893.6	611.4	510.8	475.8	486.7	508.6	491.1	481.2
52.5°	526.1	580.8	980.0	831.2	558.9	475.8	446.2	462.6	486.7	468.1	451.7
55°	474.7	516.2	845.4	766.7	506.4	440.8	415.6	437.5	463.7	443.0	422.2
57.5°	427.6	460.5	735.0	700.0	457.2	404.7	386.1	409.1	438.6	416.7	391.6
60°	383.9	408.0	628.9	625.6	408.0	368.6	354.4	380.6	413.4	388.3	359.8
62.5°	341.2	360.9	531.5	551.2	359.8	331.4	322.6	351.1	386.1	358.7	327.0
65°	300.8	316.1	451.7	480.1	315.0	293.1	288.7	320.5	359.8	327.0	293.1
67.5°	259.2	271.2	386.1	411.2	268.0	253.7	253.7	288.7	331.4	295.3	258.1
70°	220.9	227.5	319.4	342.3	230.8	217.7	217.7	253.7	299.7	260.3	224.2
72.5°	183.7	189.2	257.0	276.7	190.3	180.5	184.8	220.9	262.5	227.5	190.3
75°	148.7	152.0	199.1	217.7	152.0	145.5	150.9	188.1	226.4	193.6	157.5
77.5°	115.9	117.0	153.1	164.1	115.9	112.7	118.1	156.4	187.0	158.6	124.7
80°	84.2	85.3	109.4	117.0	83.1	82.0	88.6	122.5	146.6	124.7	94.1
82.5°	54.7	56.9	73.3	75.5	53.6	54.7	61.2	88.6	106.1	90.8	66.7
85°	30.6	31.7	41.6	41.6	29.5	31.7	38.3	54.7	67.8	59.1	42.7
87.5°	12.0	12.0	16.4	16.4	12.0	14.2	17.5	29.5	33.9	30.6	21.9
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°	1175.7	1175.7	1175.7	1175.7	1175.7	1175.7
2.5°	1145.1	1190.0	1207.5	1242.5	1254.5	1254.5
5°	1117.8	1184.5	1235.9	1305.9	1344.2	1361.7
7.5°	1089.3	1177.9	1265.4	1374.8	1448.1	1475.4
10°	1060.9	1168.1	1293.9	1444.8	1556.4	1593.6
12.5°	1040.1	1160.4	1327.8	1520.3	1665.7	1720.4
15°	1001.8	1138.6	1338.7	1584.8	1777.3	1853.9
17.5°	971.2	1121.1	1356.2	1646.0	1904.2	2010.3
20°	936.2	1106.8	1362.8	1697.5	2036.5	2152.4
22.5°	904.5	1077.3	1365.0	1759.8	2156.8	2269.5
25°	860.8	1051.1	1347.5	1821.0	2239.9	2311.0
27.5°	821.4	1025.9	1324.5	1881.2	2249.8	2233.4
30°	789.7	992.0	1300.4	1921.7	2164.5	2045.3
32.5°	748.1	957.0	1256.7	1940.3	1967.6	1772.9
35°	713.1	926.4	1218.4	1922.8	1715.0	1474.3
37.5°	684.7	879.4	1180.1	1870.3	1452.5	1226.1
40°	646.4	834.5	1134.2	1748.9	1218.4	1022.6
42.5°	613.6	785.3	1086.1	1605.6	1022.6	864.0
45°	580.8	733.9	1031.4	1442.6	868.4	745.9
47.5°	546.9	682.5	975.6	1287.3	748.1	655.1
50°	514.0	626.7	920.9	1109.0	654.0	584.0
52.5°	481.2	573.1	856.4	963.6	577.5	526.1
55°	447.3	520.6	783.1	844.4	514.0	474.7
57.5°	411.2	472.5	712.0	728.4	457.2	427.6
60°	376.2	422.2	645.3	618.0	405.8	383.9
62.5°	339.1	369.7	568.7	537.0	358.7	341.2
65°	301.9	324.8	496.5	457.2	313.9	300.8
67.5°	262.5	283.3	426.6	385.0	269.1	259.2
70°	223.1	238.4	356.6	320.5	228.6	220.9
72.5°	188.1	193.6	292.0	258.1	190.3	183.7
75°	152.0	156.4	230.8	205.6	153.1	148.7
77.5°	121.4	122.5	177.2	157.5	119.2	115.9
80°	87.5	89.7	126.9	114.8	87.5	84.2
82.5°	61.2	60.2	85.3	77.7	61.2	54.7
85°	37.2	37.2	50.3	45.9	33.9	30.6
87.5°	18.6	18.6	23.0	20.8	14.2	12.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)