

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: P231574

Luminaire Tested: **S124-DR-1-40-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231574
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-1-40-X-0048-1-U-DD-3-W
Description: DEFINE 4 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3208.4 lumens
Efficiency: N/A
Efficacy: 115.0 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

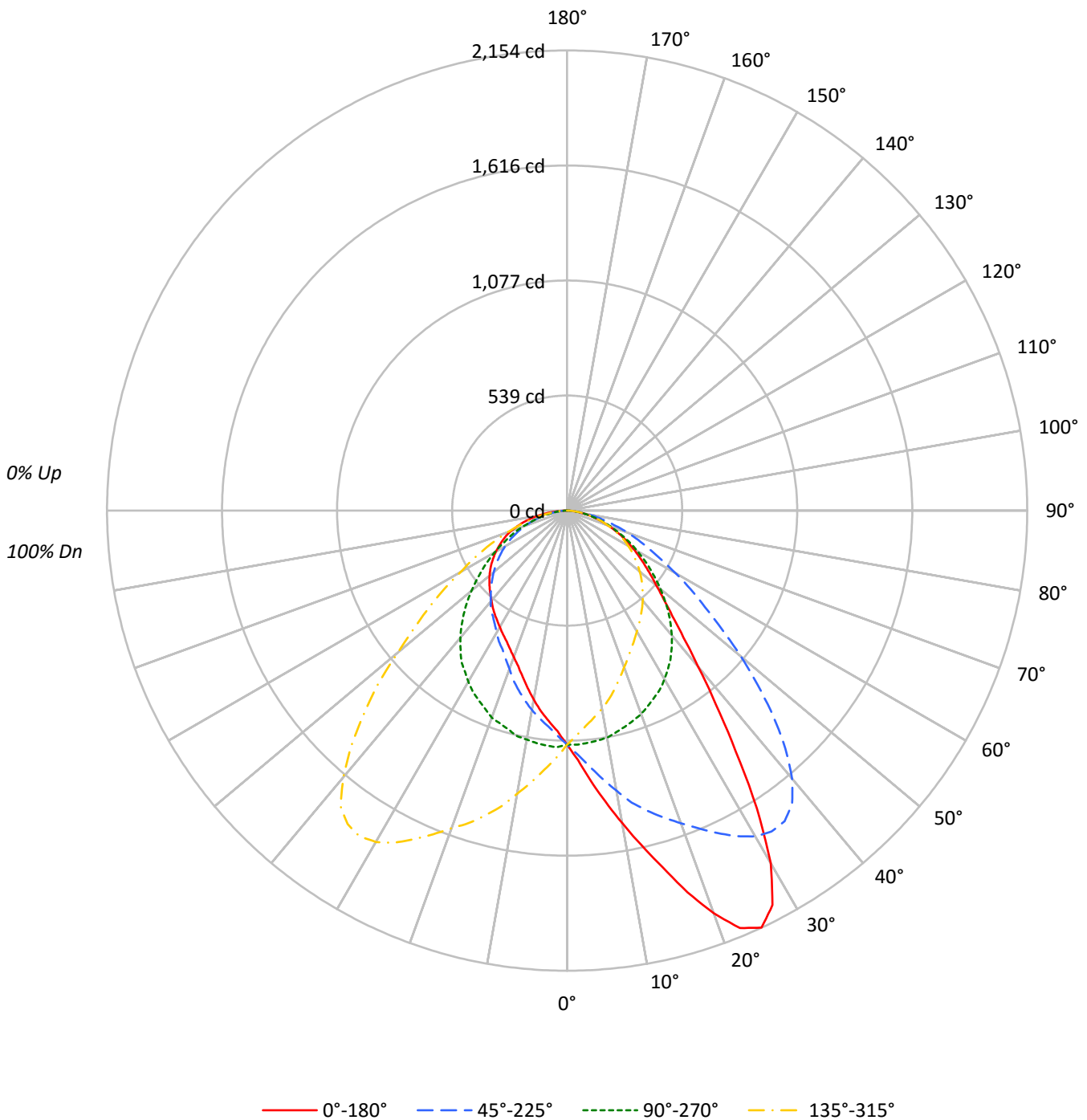
Input Watts (W): 27.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	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					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32					32			
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9818	9818	9818	9818
5°	11414	9819	8893	9928
10°	13512	9821	8180	9904
15°	16026	9710	7460	9843
20°	19127	9661	6959	9836
25°	21292	9543	6651	9684
30°	19721	9428	6517	9565
35°	15029	9242	6467	9444
40°	11147	8918	6450	9097
45°	8808	8485	6497	8667
50°	7588	7942	6606	8141
55°	6910	7372	6752	7580
60°	6410	6814	6905	7050
65°	5943	6223	7109	6418
70°	5394	5635	7317	5821
75°	4798	4906	7305	5044
80°	4051	3999	7049	4314
85°	2930	2827	6498	3568



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.8	3.3
10°-20°	330.0	10.3
20°-30°	548.4	17.1
30°-40°	638.3	19.9
40°-50°	574.8	17.9
50°-60°	462.0	14.4
60°-70°	325.9	10.2
70°-80°	175.8	5.5
80°-90°	46.5	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°	985.2	30.7
0°-40°	1623.5	50.6
0°-60°	2660.3	82.9
0°-90°	3208.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3208.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1096	1096	1096	1096	1096	
5°	1269	1092	989	1104	1269	128
15°	1728	1047	804	1061	1728	500
25°	2154	965	673	980	2154	960
35°	1374	845	591	863	1374	867
45°	695	670	513	684	695	549
55°	442	472	432	485	442	398
65°	280	294	335	303	280	277
75°	139	142	211	146	139	148
85°	28	28	63	35	28	35
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°	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7
2.5°	1169.1	1159.9	1143.6	1114.0	1096.7	1064.1	1050.8	1040.6	1033.5	1033.5	1053.9
5°	1268.9	1240.4	1200.7	1139.5	1091.6	1037.6	1011.1	993.7	988.7	988.7	1014.1
7.5°	1374.9	1334.2	1265.9	1165.0	1085.5	1011.1	975.4	953.0	945.8	948.9	981.5
10°	1485.0	1431.0	1331.1	1193.5	1079.4	988.7	940.7	909.2	899.0	906.1	947.9
12.5°	1603.2	1528.8	1400.4	1209.8	1062.0	957.1	904.1	862.3	851.1	860.2	911.2
15°	1727.6	1634.8	1455.5	1227.2	1046.7	928.5	863.3	815.4	804.2	816.4	872.5
17.5°	1873.3	1749.0	1506.4	1240.4	1030.4	899.0	819.5	774.6	763.4	772.6	834.7
20°	2005.8	1864.2	1557.4	1248.6	1013.1	869.4	780.7	737.9	729.8	737.9	788.9
22.5°	2114.9	1974.2	1610.4	1241.4	989.7	833.7	744.0	708.4	700.2	704.3	751.2
25°	2153.6	2058.8	1665.4	1226.1	965.2	794.0	711.4	683.9	672.7	677.8	716.5
27.5°	2081.3	2072.1	1718.4	1203.7	942.8	762.4	681.9	656.4	651.3	655.4	691.0
30°	1906.0	2000.7	1761.2	1177.2	911.2	728.7	653.3	632.9	629.9	639.1	658.4
32.5°	1652.2	1837.7	1781.6	1143.6	878.6	693.1	626.8	609.5	609.5	611.5	630.9
35°	1373.9	1612.4	1774.5	1104.8	844.9	660.5	601.3	588.1	591.2	587.1	605.4
37.5°	1142.6	1369.8	1729.6	1069.2	804.2	630.9	575.9	565.7	571.8	566.7	586.1
40°	953.0	1148.7	1638.9	1027.4	762.4	598.3	550.4	544.3	551.4	546.3	555.5
42.5°	805.2	965.2	1512.5	983.6	716.5	567.7	523.9	521.8	532.0	523.9	529.0
45°	695.1	817.4	1366.8	938.7	669.6	537.1	497.4	500.4	512.7	502.5	503.5
47.5°	610.5	703.3	1210.8	887.7	618.7	506.6	470.9	478.0	493.3	480.1	476.0
50°	544.3	613.6	1062.0	832.7	569.7	476.0	443.4	453.6	473.9	457.6	448.5
52.5°	490.2	541.2	913.2	774.6	520.8	443.4	415.8	431.1	453.6	436.2	420.9
55°	442.3	481.1	787.9	714.5	471.9	410.7	387.3	407.7	432.2	412.8	393.4
57.5°	398.5	429.1	684.9	652.3	426.0	377.1	359.8	381.2	408.7	388.3	364.9
60°	357.7	380.2	586.1	583.0	380.2	343.5	330.2	354.7	385.3	361.8	335.3
62.5°	318.0	336.3	495.3	513.7	335.3	308.8	300.7	327.2	359.8	334.3	304.7
65°	280.3	294.6	420.9	447.4	293.5	273.2	269.1	298.6	335.3	304.7	273.2
67.5°	241.6	252.8	359.8	383.2	249.7	236.5	236.5	269.1	308.8	275.2	240.5
70°	205.9	212.0	297.6	319.0	215.1	202.8	202.8	236.5	279.3	242.6	208.9
72.5°	171.2	176.3	239.5	257.9	177.3	168.2	172.2	205.9	244.6	212.0	177.3
75°	138.6	141.7	185.5	202.8	141.7	135.6	140.7	175.3	211.0	180.4	146.8
77.5°	108.0	109.1	142.7	152.9	108.0	105.0	110.1	145.7	174.3	147.8	116.2
80°	78.5	79.5	101.9	109.1	77.5	76.4	82.6	114.2	136.6	116.2	87.7
82.5°	51.0	53.0	68.3	70.3	49.9	51.0	57.1	82.6	98.9	84.6	62.2
85°	28.5	29.6	38.7	38.7	27.5	29.6	35.7	51.0	63.2	55.0	39.7
87.5°	11.2	11.2	15.3	15.3	11.2	13.2	16.3	27.5	31.6	28.5	20.4
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°	1095.7	1095.7	1095.7	1095.7	1095.7	1095.7
2.5°	1067.1	1108.9	1125.2	1157.8	1169.1	1169.1
5°	1041.7	1103.8	1151.7	1217.0	1252.6	1268.9
7.5°	1015.2	1097.7	1179.2	1281.2	1349.5	1374.9
10°	988.7	1088.5	1205.7	1346.4	1450.4	1485.0
12.5°	969.3	1081.4	1237.3	1416.7	1552.3	1603.2
15°	933.6	1061.0	1247.5	1476.9	1656.2	1727.6
17.5°	905.1	1044.7	1263.8	1533.9	1774.5	1873.3
20°	872.5	1031.5	1270.0	1581.8	1897.8	2005.8
22.5°	842.9	1003.9	1272.0	1639.9	2009.9	2114.9
25°	802.1	979.5	1255.7	1697.0	2087.4	2153.6
27.5°	765.4	956.0	1234.3	1753.1	2096.6	2081.3
30°	735.9	924.4	1211.9	1790.8	2017.1	1906.0
32.5°	697.2	891.8	1171.1	1808.1	1833.6	1652.2
35°	664.5	863.3	1135.4	1791.8	1598.2	1373.9
37.5°	638.0	819.5	1099.7	1742.9	1353.5	1142.6
40°	602.4	777.7	1056.9	1629.7	1135.4	953.0
42.5°	571.8	731.8	1012.1	1496.2	953.0	805.2
45°	541.2	683.9	961.1	1344.4	809.3	695.1
47.5°	509.6	636.0	909.2	1199.6	697.2	610.5
50°	479.0	584.0	858.2	1033.5	609.5	544.3
52.5°	448.5	534.1	798.1	897.9	538.2	490.2
55°	416.9	485.2	729.8	786.8	479.0	442.3
57.5°	383.2	440.3	663.5	678.8	426.0	398.5
60°	350.6	393.4	601.3	575.9	378.1	357.7
62.5°	316.0	344.5	530.0	500.4	334.3	318.0
65°	281.3	302.7	462.7	426.0	292.5	280.3
67.5°	244.6	264.0	397.5	358.8	250.7	241.6
70°	207.9	222.2	332.3	298.6	213.0	205.9
72.5°	175.3	180.4	272.1	240.5	177.3	171.2
75°	141.7	145.7	215.1	191.6	142.7	138.6
77.5°	113.1	114.2	165.1	146.8	111.1	108.0
80°	81.5	83.6	118.2	107.0	81.5	78.5
82.5°	57.1	56.1	79.5	72.4	57.1	51.0
85°	34.7	34.7	46.9	42.8	31.6	28.5
87.5°	17.3	17.3	21.4	19.4	13.2	11.2
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)