

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: P199499

Luminaire Tested: **S124-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199499  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28062)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LL2-4000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LLO-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5882.0 lumens  
Efficiency: N/A  
Efficacy: 112.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Indirect

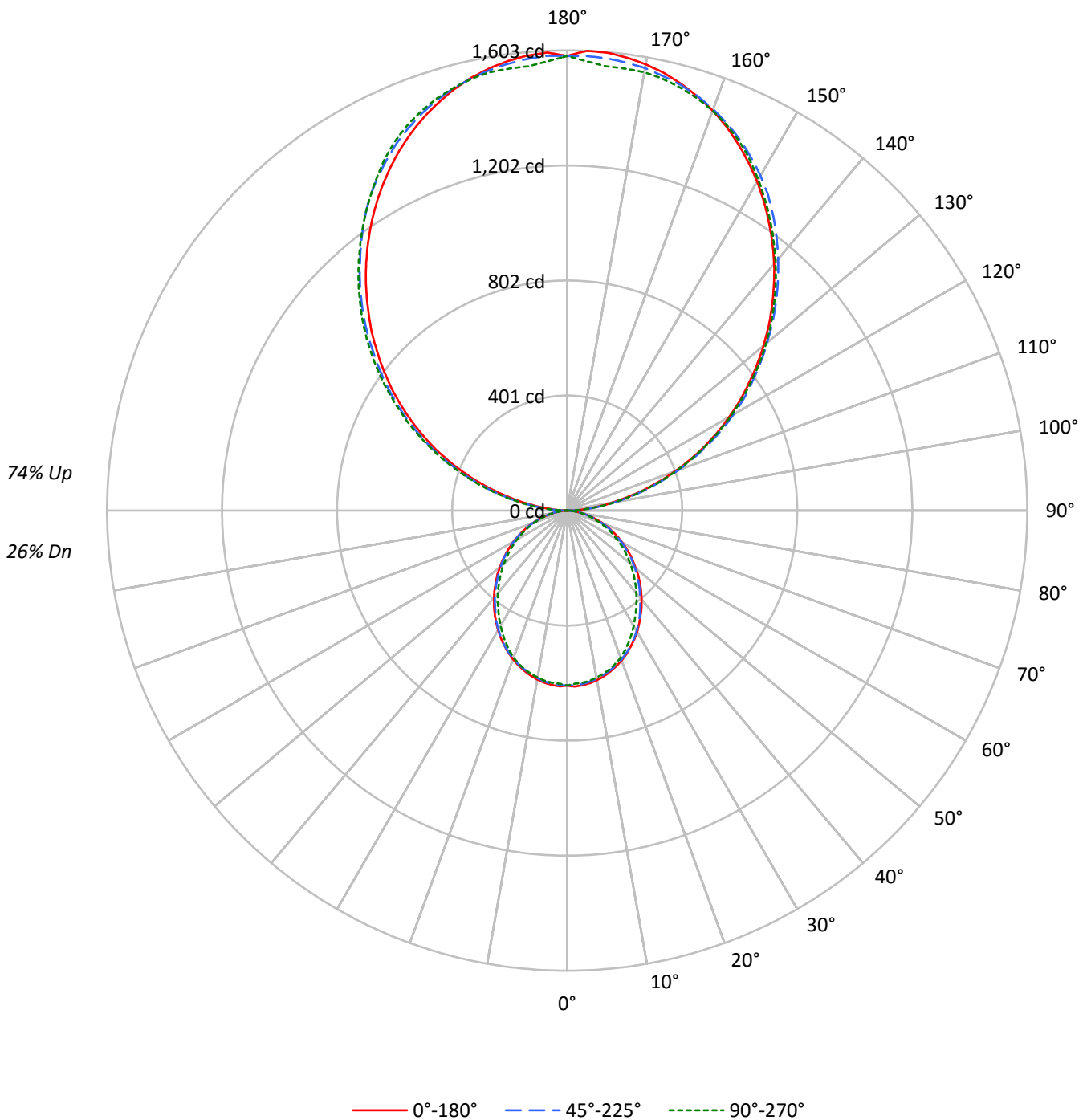
Input Watts (W): 52.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	85	81	82	79	76	73	61	59	57	45	44	42	30	29	29	22
2	84	77	71	66	75	69	64	60	54	50	47	39	37	35	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	23	22	21	16
4	70	60	52	47	62	54	47	42	42	37	34	31	28	26	21	19	18	13
5	64	53	45	40	57	48	41	36	37	33	29	28	25	22	19	17	15	12
6	59	48	40	34	52	43	36	31	34	29	25	25	22	19	17	15	14	10
7	54	43	35	30	48	38	32	27	30	26	22	23	19	17	16	14	12	9
8	50	39	31	26	45	35	28	24	28	23	19	21	17	15	14	12	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	13	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	15	17	14	12	12	10	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	4819	4819	4819
5°	4810	4354	4802
10°	4743	3955	4722
15°	4639	3600	4616
20°	4521	3251	4489
25°	4378	2899	4338
30°	4227	2568	4173
35°	4047	2262	3990
40°	3867	1992	3799
45°	3672	1743	3601
50°	3452	1508	3391
55°	3256	1290	3170
60°	3012	1081	2926
65°	2770	877	2661
70°	2463	675	2347
75°	2071	474	1921
80°	1554	289	1455
85°	912	128	863



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.4	1.0
10°-20°	161.7	2.7
20°-30°	236.9	4.0
30°-40°	271.6	4.6
40°-50°	267.7	4.6
50°-60°	230.8	3.9
60°-70°	168.3	2.9
70°-80°	91.8	1.6
80°-90°	24.1	0.4
90°-100°	81.2	1.4
100°-110°	295.2	5.0
110°-120°	522.7	8.9
120°-130°	694.8	11.8
130°-140°	781.4	13.3
140°-150°	768.3	13.1
150°-160°	648.4	11.0
160°-170°	430.1	7.3
170°-180°	149.9	2.5
0°-30°	456.0	7.8
0°-40°	727.6	12.4
0°-60°	1226.1	20.8
0°-90°	1510.2	25.7
90°-120°	899.0	15.3
90°-150°	3143.5	53.4
90°-180°	4372.0	74.3
0°-180°	5882.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	609	609	609	609	609	
5°	611	606	602	606	610	58
15°	581	576	572	573	578	164
25°	523	522	507	517	518	241
35°	446	441	419	435	440	279
45°	358	351	331	345	352	277
55°	267	263	244	257	260	238
65°	177	173	160	169	170	175
75°	91	88	81	84	84	97
85°	21	21	20	20	20	23
90°	1	2	1	2	1	6
95°	68	75	73	69	53	74
105°	274	287	283	277	255	290
115°	528	541	532	524	505	521
125°	772	790	782	771	748	691
135°	1010	1029	1020	1011	980	779
145°	1225	1252	1234	1232	1196	767
155°	1409	1424	1419	1409	1383	649
165°	1538	1534	1525	1524	1520	434
175°	1601	1582	1554	1579	1591	152
180°	1584	1584	1584	1584	1584	



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CATALOG NUMBER: S124-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4	609.4
2.5°	613.8	606.8	609.0	607.5	603.5	607.5	608.6	606.4	613.1
5°	610.8	604.2	606.4	604.2	602.4	603.8	605.7	603.1	609.7
7.5°	606.4	599.4	601.3	599.4	597.6	599.1	600.2	597.9	604.9
10°	600.2	592.8	594.6	592.4	590.2	591.7	592.8	590.6	597.6
12.5°	591.3	584.3	585.8	584.3	582.5	582.8	583.6	581.4	588.7
15°	580.6	573.6	576.2	574.7	572.2	573.6	573.3	570.7	577.7
17.5°	568.5	561.8	564.8	563.3	559.6	561.8	561.8	557.8	565.2
20°	555.2	548.2	552.3	548.6	544.5	546.7	548.6	543.8	551.2
22.5°	540.5	533.1	537.9	531.3	526.8	529.4	533.8	528.7	535.3
25°	523.2	517.3	521.7	512.5	506.6	510.3	517.3	512.1	518.4
27.5°	506.2	500.3	504.0	493.7	485.6	490.4	499.2	494.8	500.3
30°	487.4	482.6	484.5	472.3	463.8	469.0	479.3	476.7	481.2
32.5°	466.8	463.1	463.1	450.2	441.4	447.3	458.3	457.6	460.5
35°	446.2	443.9	441.4	427.4	418.9	424.4	435.1	438.1	439.9
37.5°	425.2	423.7	418.9	405.3	397.2	403.1	413.0	417.4	418.5
40°	403.4	402.7	396.1	383.2	375.1	380.9	391.3	396.8	396.4
42.5°	381.3	382.1	373.9	361.4	353.3	359.2	368.8	376.2	374.3
45°	358.5	360.7	351.1	339.7	331.2	337.5	345.2	354.4	351.5
47.5°	336.4	338.9	329.0	317.2	309.1	315.7	323.5	333.4	329.0
50°	311.3	316.5	306.9	295.1	287.0	293.3	302.5	310.9	305.8
52.5°	289.6	293.3	284.8	273.4	265.6	270.8	280.0	288.5	282.9
55°	267.1	271.2	262.7	251.3	243.9	249.1	257.2	265.6	260.1
57.5°	243.5	247.6	239.8	229.5	222.5	228.1	236.5	242.4	237.3
60°	220.7	225.8	217.4	207.4	201.5	205.9	212.6	219.6	214.4
62.5°	198.6	203.4	195.3	186.1	180.5	184.6	191.6	197.1	192.3
65°	177.2	180.2	173.2	164.7	159.9	162.5	168.7	175.0	170.2
67.5°	155.5	158.4	151.4	144.1	139.3	141.8	147.0	152.9	148.5
70°	133.4	135.9	130.1	123.4	119.4	121.9	126.7	131.2	127.1
72.5°	112.4	114.2	108.7	103.5	100.6	102.4	105.7	109.8	107.9
75°	91.0	93.2	87.7	83.3	80.7	81.4	84.0	87.3	84.4
77.5°	70.7	72.9	68.5	65.2	63.7	64.1	65.9	68.5	64.8
80°	51.9	53.8	51.2	48.3	46.8	47.5	48.6	50.1	48.6
82.5°	35.0	36.8	35.0	33.2	32.1	32.8	33.2	33.9	32.8
85°	20.6	22.1	21.0	19.9	19.5	19.5	19.9	20.6	19.5
87.5°	9.2	10.3	9.6	8.8	7.7	8.1	8.5	9.2	8.5
90°	0.7	1.8	1.5	1.1	1.1	1.1	1.5	1.8	0.7
92.5°	31.0	35.1	36.1	33.0	33.0	32.0	29.9	28.9	18.6
95°	68.1	74.3	75.4	75.4	73.3	71.2	69.2	64.0	52.6
97.5°	110.5	117.7	119.7	117.7	118.7	116.6	111.5	106.3	95.0
100°	159.0	168.3	170.3	168.3	169.3	164.1	162.1	156.9	143.5
102.5°	212.6	224.0	225.0	223.0	223.0	218.8	216.8	210.6	197.2
105°	273.6	285.9	287.0	282.8	282.8	278.7	276.7	270.5	255.0
107.5°	335.5	347.9	347.9	343.7	343.7	340.7	336.5	332.4	316.9
110°	399.5	409.8	411.9	406.7	405.7	402.6	398.5	392.3	378.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	463.5	473.8	475.9	469.7	468.7	462.5	461.4	454.2	440.8
115°	527.5	537.8	540.9	533.7	531.6	524.4	524.4	517.2	504.8
117.5°	589.4	601.8	604.9	596.7	595.6	589.4	585.3	579.1	565.7
120°	651.4	666.9	668.9	659.6	658.6	651.4	649.3	641.0	627.6
122.5°	713.3	728.8	731.9	723.6	720.5	711.2	710.2	703.0	688.5
125°	772.1	789.7	789.7	785.6	782.5	775.2	771.1	762.9	748.4
127.5°	833.0	851.6	850.6	847.5	844.4	834.1	831.0	822.7	807.2
130°	892.9	909.4	909.4	907.4	905.3	896.0	890.9	882.6	865.0
132.5°	951.8	968.3	970.3	965.2	963.1	950.7	951.8	941.4	923.9
135°	1009.6	1024.0	1029.2	1020.9	1019.9	1006.5	1010.6	997.2	979.6
137.5°	1066.3	1077.7	1087.0	1076.7	1075.6	1062.2	1068.4	1050.9	1035.4
140°	1122.1	1131.4	1143.8	1131.4	1129.3	1116.9	1123.1	1104.5	1091.1
142.5°	1174.7	1183.0	1198.5	1185.1	1182.0	1170.6	1177.8	1156.2	1143.8
145°	1225.3	1231.5	1252.2	1237.7	1233.6	1223.3	1232.5	1205.7	1196.4
147.5°	1275.9	1279.0	1302.7	1289.3	1283.1	1274.9	1284.2	1254.2	1247.0
150°	1323.4	1323.4	1347.1	1336.8	1331.6	1322.3	1328.5	1299.6	1294.5
152.5°	1367.8	1365.7	1387.4	1381.2	1378.1	1367.8	1369.8	1343.0	1339.9
155°	1409.1	1404.9	1424.5	1421.4	1419.4	1409.1	1409.1	1382.2	1383.3
157.5°	1448.3	1440.0	1458.6	1457.6	1453.4	1445.2	1443.1	1419.4	1422.5
160°	1482.4	1475.1	1487.5	1485.4	1482.4	1474.1	1474.1	1453.4	1458.6
162.5°	1512.3	1503.0	1513.3	1507.1	1506.1	1496.8	1500.9	1483.4	1490.6
165°	1538.1	1528.8	1534.0	1525.7	1524.7	1516.4	1523.6	1511.3	1519.5
167.5°	1560.8	1550.5	1549.5	1542.2	1540.2	1534.0	1542.2	1535.0	1544.3
170°	1578.4	1568.0	1564.9	1552.5	1550.5	1545.3	1557.7	1555.6	1563.9
172.5°	1591.8	1581.5	1574.2	1559.8	1552.5	1553.6	1570.1	1570.1	1579.4
175°	1601.1	1589.7	1581.5	1567.0	1553.6	1561.8	1579.4	1580.4	1590.7
177.5°	1603.1	1591.8	1584.5	1571.1	1566.0	1567.0	1585.6	1585.6	1596.9
180°	1583.5	1583.5	1583.5	1583.5	1583.5	1583.5	1583.5	1583.5	1583.5

(END OF REPORT)