

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: P199479

Luminaire Tested: **S124-DIP-U1-LO-35-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199479  
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-U1-LO-35-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LL1-3500K, SATIN WHITE DIFFUSER  
DOWNLIGHT LLO-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4404.6 lumens  
Efficiency: N/A  
Efficacy: 113.5 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

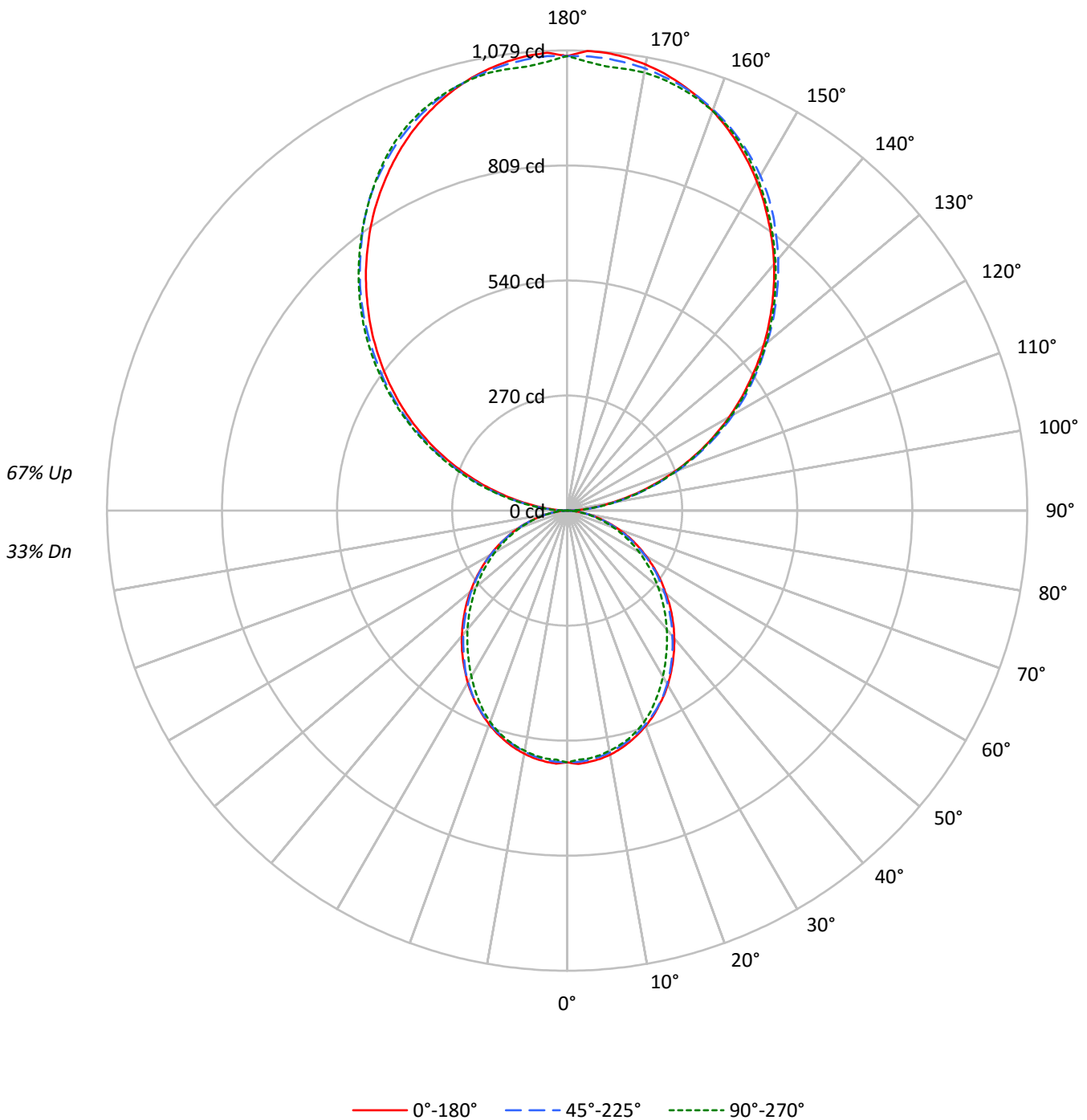
Input Watts (W): 38.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34	28
2	86	79	73	68	77	71	66	62	57	53	50	44	42	39	32	30	29	24
3	78	69	62	56	70	62	56	52	50	46	42	39	36	33	28	26	25	20
4	71	61	53	48	64	55	49	44	45	40	36	35	31	29	25	23	21	17
5	66	54	46	41	59	49	42	37	40	35	31	31	27	25	23	20	19	15
6	60	49	41	35	54	44	37	32	36	31	27	28	24	22	21	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	30	25	29	24	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	14	12	10
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

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

	0°	90°	180°
0°	4668	4668	4668
5°	4660	4217	4652
10°	4594	3832	4575
15°	4495	3487	4472
20°	4380	3150	4348
25°	4241	2808	4202
30°	4095	2487	4042
35°	3920	2191	3865
40°	3746	1929	3681
45°	3557	1689	3488
50°	3345	1461	3285
55°	3155	1250	3072
60°	2918	1047	2834
65°	2684	849	2578
70°	2385	653	2273
75°	2007	460	1859
80°	1506	280	1410
85°	885	124	837



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.6	1.3
10°-20°	156.7	3.6
20°-30°	229.5	5.2
30°-40°	263.1	6.0
40°-50°	259.3	5.9
50°-60°	223.5	5.1
60°-70°	163.0	3.7
70°-80°	88.9	2.0
80°-90°	23.3	0.5
90°-100°	54.7	1.2
100°-110°	198.6	4.5
110°-120°	351.7	8.0
120°-130°	467.5	10.6
130°-140°	525.7	11.9
140°-150°	516.9	11.7
150°-160°	436.3	9.9
160°-170°	289.4	6.6
170°-180°	100.9	2.3
0°-30°	441.8	10.0
0°-40°	704.8	16.0
0°-60°	1187.7	27.0
0°-90°	1463.0	33.2
90°-120°	605.0	13.7
90°-150°	2115.1	48.0
90°-180°	2942.0	66.8
0°-180°	4404.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	590	590	590	590	590	
5°	592	588	584	587	591	56
15°	562	558	554	555	560	159
25°	507	505	491	501	502	234
35°	432	428	406	422	426	270
45°	347	340	321	334	340	268
55°	259	254	236	249	252	231
65°	172	168	155	164	165	170
75°	88	85	78	81	82	94
85°	20	20	19	19	19	23
90°	1	1	1	1	1	4
95°	46	51	49	46	35	50
105°	184	193	190	186	172	195
115°	355	364	358	353	340	351
125°	520	531	526	519	504	465
135°	679	692	686	680	659	524
145°	824	842	830	829	805	516
155°	948	958	955	948	931	437
165°	1035	1032	1026	1025	1022	292
175°	1077	1064	1045	1063	1070	102
180°	1066	1066	1066	1066	1066	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	590.3	590.3	590.3	590.3	590.3	590.3	590.3	590.3	590.3
2.5°	594.6	587.8	590.0	588.5	584.6	588.5	589.6	587.5	593.9
5°	591.7	585.3	587.5	585.3	583.5	585.0	586.7	584.2	590.7
7.5°	587.5	580.7	582.5	580.7	578.9	580.3	581.4	579.2	586.0
10°	581.4	574.3	576.0	573.9	571.8	573.2	574.3	572.1	578.9
12.5°	572.8	566.0	567.5	566.0	564.3	564.6	565.3	563.2	570.3
15°	562.5	555.7	558.2	556.8	554.3	555.7	555.3	552.8	559.6
17.5°	550.7	544.3	547.1	545.7	542.1	544.3	544.3	540.3	547.5
20°	537.8	531.1	535.0	531.4	527.5	529.6	531.4	526.8	533.9
22.5°	523.6	516.4	521.1	514.6	510.4	512.9	517.1	512.2	518.6
25°	506.8	501.1	505.4	496.4	490.7	494.3	501.1	496.1	502.2
27.5°	490.4	484.7	488.2	478.2	470.4	475.0	483.6	479.3	484.7
30°	472.2	467.5	469.3	457.5	449.3	454.3	464.3	461.8	466.1
32.5°	452.2	448.6	448.6	436.1	427.6	433.3	444.0	443.3	446.1
35°	432.2	430.1	427.6	414.0	405.8	411.1	421.5	424.4	426.1
37.5°	411.9	410.4	405.8	392.6	384.7	390.4	400.1	404.4	405.4
40°	390.8	390.1	383.7	371.2	363.3	369.0	379.0	384.4	384.0
42.5°	369.4	370.1	362.3	350.1	342.3	348.0	357.3	364.4	362.6
45°	347.3	349.4	340.1	329.1	320.9	326.9	334.4	343.3	340.5
47.5°	325.8	328.3	318.7	307.3	299.4	305.9	313.4	323.0	318.7
50°	301.6	306.6	297.3	285.9	278.0	284.1	293.0	301.2	296.2
52.5°	280.5	284.1	275.9	264.8	257.3	262.3	271.2	279.5	274.1
55°	258.8	262.7	254.5	243.4	236.3	241.3	249.1	257.3	252.0
57.5°	235.9	239.8	232.3	222.3	215.6	220.9	229.1	234.8	229.8
60°	213.8	218.8	210.6	200.9	195.2	199.5	205.9	212.7	207.7
62.5°	192.4	197.0	189.2	180.2	174.9	178.8	185.6	190.9	186.3
65°	171.7	174.5	167.7	159.5	154.9	157.4	163.5	169.5	164.9
67.5°	150.6	153.5	146.7	139.5	134.9	137.4	142.4	148.1	143.8
70°	129.2	131.7	126.0	119.6	115.6	118.1	122.8	127.1	123.1
72.5°	108.9	110.6	105.3	100.3	97.4	99.2	102.4	106.4	104.6
75°	88.2	90.3	84.9	80.7	78.2	78.9	81.4	84.6	81.7
77.5°	68.5	70.7	66.4	63.2	61.7	62.1	63.9	66.4	62.8
80°	50.3	52.1	49.6	46.8	45.3	46.0	47.1	48.5	47.1
82.5°	33.9	35.7	33.9	32.1	31.1	31.8	32.1	32.8	31.8
85°	20.0	21.4	20.3	19.3	18.9	18.9	19.3	20.0	18.9
87.5°	8.9	10.0	9.3	8.6	7.5	7.9	8.2	8.9	8.2
90°	0.7	1.8	1.4	1.1	1.1	1.1	1.4	1.8	0.7
92.5°	20.8	23.6	24.3	22.2	22.2	21.5	20.1	19.4	12.5
95°	45.8	50.0	50.7	50.7	49.3	47.9	46.5	43.1	35.4
97.5°	74.3	79.2	80.6	79.2	79.9	78.5	75.0	71.5	63.9
100°	107.0	113.2	114.6	113.2	113.9	110.4	109.0	105.6	96.5
102.5°	143.1	150.7	151.4	150.0	150.0	147.2	145.9	141.7	132.7
105°	184.1	192.4	193.1	190.3	190.3	187.5	186.1	182.0	171.6
107.5°	225.7	234.1	234.1	231.3	231.3	229.2	226.4	223.7	213.2
110°	268.8	275.7	277.1	273.7	273.0	270.9	268.1	263.9	254.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	311.9	318.8	320.2	316.0	315.3	311.2	310.5	305.6	296.6
115°	354.9	361.9	364.0	359.1	357.7	352.8	352.8	348.0	339.6
117.5°	396.6	404.9	407.0	401.5	400.8	396.6	393.8	389.7	380.6
120°	438.3	448.7	450.1	443.8	443.1	438.3	436.9	431.3	422.3
122.5°	479.9	490.4	492.4	486.9	484.8	478.6	477.9	473.0	463.3
125°	519.5	531.3	531.3	528.6	526.5	521.6	518.8	513.3	503.6
127.5°	560.5	573.0	572.3	570.2	568.2	561.2	559.1	553.6	543.2
130°	600.8	611.9	611.9	610.5	609.1	602.9	599.4	593.9	582.0
132.5°	640.4	651.5	652.9	649.4	648.0	639.7	640.4	633.4	621.6
135°	679.3	689.0	692.5	686.9	686.2	677.2	680.0	671.0	659.1
137.5°	717.5	725.1	731.4	724.4	723.7	714.7	718.9	707.1	696.6
140°	755.0	761.2	769.6	761.2	759.9	751.5	755.7	743.2	734.2
142.5°	790.4	796.0	806.4	797.4	795.3	787.6	792.5	777.9	769.6
145°	824.4	828.6	842.5	832.8	830.0	823.1	829.3	811.3	805.0
147.5°	858.5	860.6	876.5	867.5	863.3	857.8	864.0	843.9	839.0
150°	890.4	890.4	906.4	899.5	896.0	889.7	893.9	874.5	871.0
152.5°	920.3	918.9	933.5	929.3	927.2	920.3	921.7	903.6	901.5
155°	948.1	945.3	958.5	956.4	955.0	948.1	948.1	930.0	930.7
157.5°	974.5	968.9	981.4	980.7	977.9	972.4	971.0	955.0	957.1
160°	997.4	992.5	1000.9	999.5	997.4	991.8	991.8	977.9	981.4
162.5°	1017.5	1011.3	1018.2	1014.1	1013.4	1007.1	1009.9	998.1	1003.0
165°	1034.9	1028.7	1032.1	1026.6	1025.9	1020.3	1025.2	1016.8	1022.4
167.5°	1050.2	1043.2	1042.5	1037.7	1036.3	1032.1	1037.7	1032.8	1039.1
170°	1062.0	1055.0	1053.0	1044.6	1043.2	1039.8	1048.1	1046.7	1052.3
172.5°	1071.0	1064.1	1059.2	1049.5	1044.6	1045.3	1056.4	1056.4	1062.7
175°	1077.3	1069.6	1064.1	1054.4	1045.3	1050.9	1062.7	1063.4	1070.3
177.5°	1078.7	1071.0	1066.2	1057.1	1053.7	1054.4	1066.9	1066.9	1074.5
180°	1065.5	1065.5	1065.5	1065.5	1065.5	1065.5	1065.5	1065.5	1065.5

(END OF REPORT)