

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: P199477

Luminaire Tested: **S124-DIP-U1-LO-30-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199477  
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-30-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LL1-3000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LLO-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4317.5 lumens  
Efficiency: N/A  
Efficacy: 111.3 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

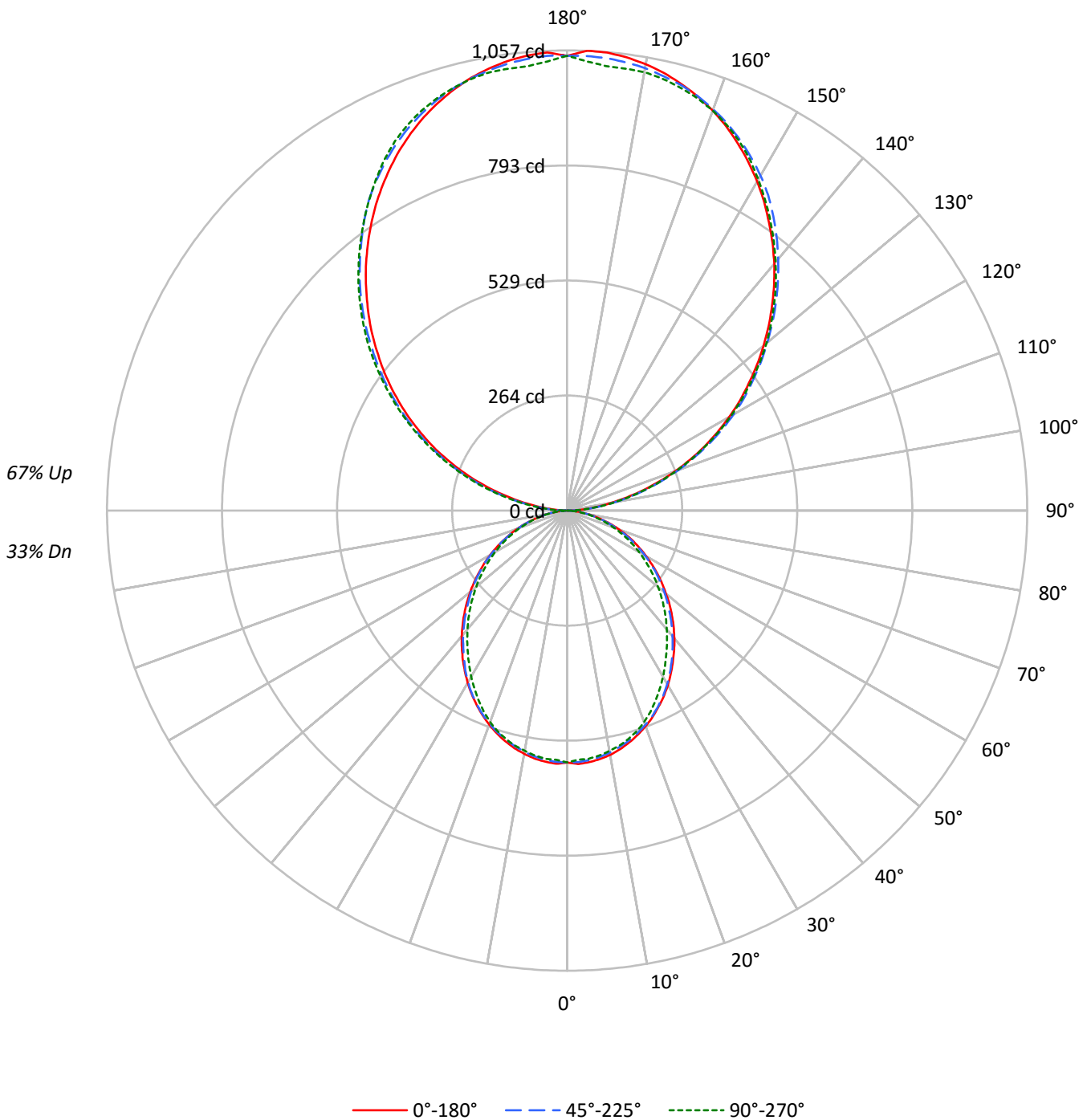
Input Watts (W): 38.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4576	4576	4576
5°	4568	4134	4560
10°	4504	3755	4484
15°	4406	3418	4384
20°	4293	3088	4262
25°	4157	2753	4118
30°	4013	2439	3962
35°	3843	2148	3789
40°	3672	1891	3608
45°	3487	1655	3418
50°	3278	1432	3220
55°	3091	1225	3011
60°	2860	1027	2778
65°	2631	832	2526
70°	2337	640	2229
75°	1966	450	1823
80°	1476	274	1383
85°	868	121	819



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.5	1.3
10°-20°	153.6	3.6
20°-30°	225.0	5.2
30°-40°	257.9	6.0
40°-50°	254.2	5.9
50°-60°	219.1	5.1
60°-70°	159.8	3.7
70°-80°	87.1	2.0
80°-90°	22.8	0.5
90°-100°	53.6	1.2
100°-110°	194.7	4.5
110°-120°	344.7	8.0
120°-130°	458.3	10.6
130°-140°	515.3	11.9
140°-150°	506.7	11.7
150°-160°	427.6	9.9
160°-170°	283.7	6.6
170°-180°	98.9	2.3
0°-30°	433.1	10.0
0°-40°	690.9	16.0
0°-60°	1164.3	27.0
0°-90°	1434.0	33.2
90°-120°	593.0	13.7
90°-150°	2073.3	48.0
90°-180°	2883.0	66.8
0°-180°	4317.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	579	579	579	579	579	
5°	580	576	572	575	579	55
15°	551	547	543	544	549	155
25°	497	495	481	491	492	229
35°	424	419	398	413	418	265
45°	340	333	314	328	334	263
55°	254	249	232	244	247	226
65°	168	164	152	160	162	166
75°	86	83	77	80	80	92
85°	20	20	18	19	18	22
90°	1	1	1	1	1	4
95°	45	50	48	46	35	49
105°	180	189	186	182	168	191
115°	348	357	351	346	333	344
125°	509	521	516	509	494	456
135°	666	679	673	666	646	514
145°	808	826	814	813	789	506
155°	929	940	936	929	912	428
165°	1014	1012	1006	1005	1002	286
175°	1056	1043	1025	1042	1049	100
180°	1044	1044	1044	1044	1044	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	578.6	578.6	578.6	578.6	578.6	578.6	578.6	578.6	578.6
2.5°	582.8	576.2	578.3	576.9	573.0	576.9	577.9	575.8	582.1
5°	580.0	573.7	575.8	573.7	572.0	573.4	575.1	572.7	579.0
7.5°	575.8	569.2	570.9	569.2	567.4	568.8	569.9	567.8	574.4
10°	569.9	562.9	564.6	562.5	560.4	561.8	562.9	560.8	567.4
12.5°	561.5	554.9	556.2	554.9	553.1	553.5	554.2	552.1	559.0
15°	551.4	544.7	547.2	545.8	543.3	544.7	544.4	541.9	548.6
17.5°	539.8	533.5	536.3	534.9	531.4	533.5	533.5	529.7	536.7
20°	527.2	520.6	524.4	520.9	517.1	519.2	520.9	516.4	523.4
22.5°	513.2	506.2	510.8	504.5	500.3	502.7	506.9	502.0	508.3
25°	496.8	491.2	495.4	486.6	481.0	484.5	491.2	486.3	492.2
27.5°	480.7	475.1	478.6	468.8	461.1	465.6	474.0	469.8	475.1
30°	462.8	458.3	460.0	448.5	440.5	445.3	455.1	452.7	456.9
32.5°	443.3	439.8	439.8	427.5	419.1	424.7	435.2	434.5	437.3
35°	423.7	421.6	419.1	405.8	397.8	403.0	413.2	416.0	417.7
37.5°	403.7	402.3	397.8	384.8	377.1	382.7	392.2	396.4	397.4
40°	383.1	382.4	376.1	363.8	356.1	361.7	371.5	376.8	376.4
42.5°	362.1	362.8	355.1	343.2	335.5	341.1	350.2	357.2	355.4
45°	340.4	342.5	333.4	322.6	314.5	320.5	327.8	336.5	333.7
47.5°	319.4	321.9	312.4	301.2	293.5	299.8	307.2	316.6	312.4
50°	295.6	300.5	291.4	280.2	272.5	278.5	287.2	295.3	290.4
52.5°	275.0	278.5	270.4	259.6	252.2	257.1	265.9	273.9	268.7
55°	253.6	257.5	249.4	238.6	231.6	236.5	244.2	252.2	247.0
57.5°	231.2	235.1	227.7	218.0	211.3	216.6	224.6	230.2	225.3
60°	209.6	214.5	206.4	197.0	191.4	195.6	201.9	208.5	203.6
62.5°	188.6	193.1	185.4	176.7	171.4	175.3	181.9	187.2	182.6
65°	168.3	171.1	164.4	156.4	151.8	154.3	160.2	166.2	161.6
67.5°	147.6	150.4	143.8	136.8	132.2	134.7	139.6	145.2	141.0
70°	126.6	129.1	123.5	117.2	113.3	115.8	120.3	124.5	120.7
72.5°	106.7	108.5	103.2	98.3	95.5	97.3	100.4	104.3	102.5
75°	86.4	88.5	83.3	79.1	76.6	77.3	79.8	82.9	80.1
77.5°	67.2	69.3	65.1	61.9	60.5	60.9	62.6	65.1	61.6
80°	49.3	51.1	48.6	45.8	44.4	45.1	46.2	47.6	46.2
82.5°	33.2	35.0	33.2	31.5	30.4	31.1	31.5	32.2	31.1
85°	19.6	21.0	19.9	18.9	18.5	18.5	18.9	19.6	18.5
87.5°	8.7	9.8	9.1	8.4	7.3	7.7	8.0	8.7	8.0
90°	0.7	1.7	1.4	1.0	1.0	1.0	1.4	1.7	0.7
92.5°	20.4	23.1	23.8	21.8	21.8	21.1	19.7	19.1	12.3
95°	44.9	49.0	49.7	49.7	48.3	47.0	45.6	42.2	34.7
97.5°	72.8	77.6	79.0	77.6	78.3	76.9	73.5	70.1	62.6
100°	104.8	111.0	112.3	111.0	111.7	108.3	106.9	103.5	94.6
102.5°	140.3	147.7	148.4	147.1	147.1	144.3	143.0	138.9	130.0
105°	180.4	188.6	189.3	186.5	186.5	183.8	182.5	178.4	168.2
107.5°	221.3	229.4	229.4	226.7	226.7	224.7	222.0	219.2	209.0
110°	263.5	270.3	271.7	268.2	267.6	265.5	262.8	258.7	249.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	305.7	312.5	313.9	309.8	309.1	305.0	304.3	299.6	290.7
115°	347.9	354.7	356.8	352.0	350.6	345.9	345.9	341.1	332.9
117.5°	388.8	396.9	399.0	393.5	392.8	388.8	386.0	381.9	373.1
120°	429.6	439.8	441.2	435.1	434.4	429.6	428.2	422.8	413.9
122.5°	470.5	480.7	482.7	477.3	475.2	469.1	468.4	463.6	454.1
125°	509.3	520.8	520.8	518.1	516.1	511.3	508.6	503.1	493.6
127.5°	549.4	561.7	561.0	559.0	556.9	550.1	548.1	542.6	532.4
130°	588.9	599.8	599.8	598.5	597.1	591.0	587.6	582.1	570.5
132.5°	627.7	638.6	640.0	636.6	635.2	627.0	627.7	620.9	609.3
135°	665.9	675.4	678.8	673.3	672.7	663.8	666.5	657.7	646.1
137.5°	703.3	710.8	716.9	710.1	709.4	700.6	704.7	693.1	682.9
140°	740.1	746.2	754.4	746.2	744.8	736.7	740.7	728.5	719.6
142.5°	774.8	780.2	790.4	781.6	779.6	772.1	776.8	762.5	754.4
145°	808.1	812.2	825.8	816.3	813.6	806.8	812.9	795.2	789.1
147.5°	841.5	843.6	859.2	850.4	846.3	840.8	847.0	827.2	822.4
150°	872.8	872.8	888.5	881.7	878.3	872.1	876.2	857.2	853.8
152.5°	902.1	900.7	915.0	911.0	908.9	902.1	903.5	885.8	883.7
155°	929.3	926.6	939.5	937.5	936.1	929.3	929.3	911.6	912.3
157.5°	955.2	949.8	962.0	961.3	958.6	953.2	951.8	936.1	938.2
160°	977.7	972.9	981.1	979.7	977.7	972.2	972.2	958.6	962.0
162.5°	997.4	991.3	998.1	994.0	993.3	987.2	989.9	978.4	983.1
165°	1014.4	1008.3	1011.7	1006.3	1005.6	1000.1	1004.9	996.7	1002.2
167.5°	1029.4	1022.6	1021.9	1017.2	1015.8	1011.7	1017.2	1012.4	1018.5
170°	1041.0	1034.2	1032.1	1024.0	1022.6	1019.2	1027.4	1026.0	1031.5
172.5°	1049.8	1043.0	1038.3	1028.7	1024.0	1024.7	1035.5	1035.5	1041.7
175°	1056.0	1048.5	1043.0	1033.5	1024.7	1030.1	1041.7	1042.4	1049.2
177.5°	1057.3	1049.8	1045.1	1036.2	1032.8	1033.5	1045.8	1045.8	1053.2
180°	1044.4	1044.4	1044.4	1044.4	1044.4	1044.4	1044.4	1044.4	1044.4

(END OF REPORT)