

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: P199503

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199503  
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-ULO-1-35-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LLO-3500K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL1-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4358.9 lumens  
Efficiency: N/A  
Efficacy: 108.7 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-Direct

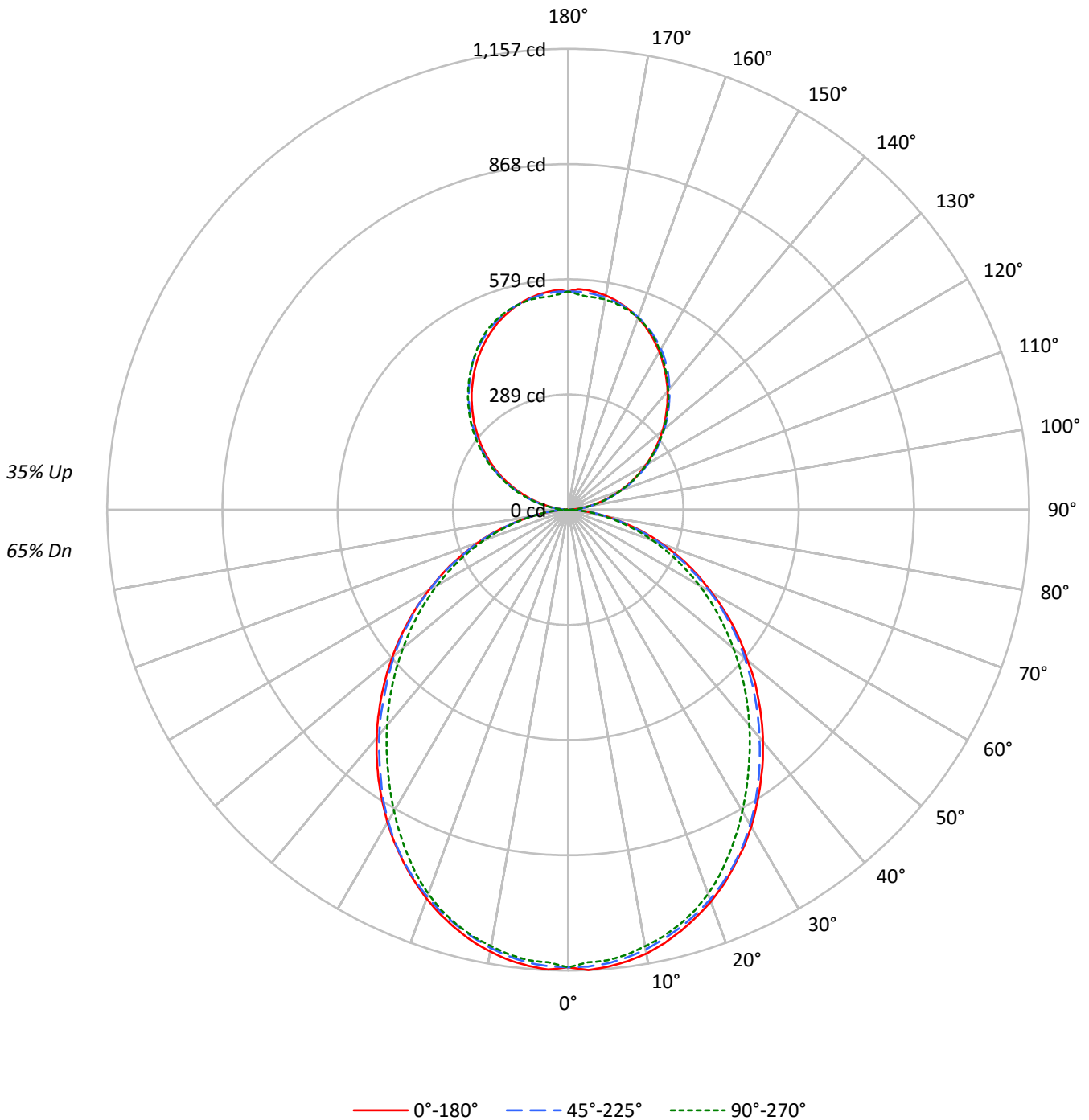
Input Watts (W): 40.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20			20			20			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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	101	97	93	89	95	91	88	85	81	78	76	71	69	67	62	61	60	55
2	92	85	79	73	87	80	74	70	71	67	63	63	59	57	55	53	50	46
3	84	75	67	61	79	71	64	58	63	57	53	55	51	48	49	46	43	39
4	77	66	58	52	72	63	55	50	56	50	45	50	45	41	44	40	37	34
5	71	59	51	45	67	56	49	43	50	44	39	45	40	36	39	36	32	30
6	66	53	45	39	61	50	43	37	45	39	34	40	35	32	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	31	37	32	28	33	29	26	23
8	56	44	36	31	53	42	34	29	38	32	27	34	29	25	30	26	23	21
9	53	40	33	27	50	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	30	25	46	35	28	24	32	26	22	29	24	21	26	22	19	17

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

	0°	90°	180°
0°	9085	9085	9085
5°	9069	8207	9053
10°	8941	7456	8903
15°	8747	6786	8703
20°	8524	6130	8462
25°	8253	5466	8178
30°	7969	4841	7866
35°	7630	4265	7523
40°	7289	3755	7164
45°	6922	3286	6787
50°	6508	2844	6393
55°	6138	2432	5977
60°	5677	2038	5516
65°	5223	1653	5017
70°	4642	1272	4424
75°	3905	894	3620
80°	2932	544	2746
85°	1722	241	1629



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.2	2.5
10°-20°	304.9	7.0
20°-30°	446.7	10.2
30°-40°	511.9	11.7
40°-50°	504.7	11.6
50°-60°	435.0	10.0
60°-70°	317.2	7.3
70°-80°	173.0	4.0
80°-90°	45.4	1.0
90°-100°	28.4	0.7
100°-110°	102.1	2.3
110°-120°	180.7	4.1
120°-130°	240.2	5.5
130°-140°	270.1	6.2
140°-150°	265.6	6.1
150°-160°	224.2	5.1
160°-170°	148.7	3.4
170°-180°	51.8	1.2
0°-30°	859.8	19.7
0°-40°	1371.7	31.5
0°-60°	2311.5	53.0
0°-90°	2847.1	65.3
90°-120°	311.1	7.1
90°-150°	1087.1	24.9
90°-180°	1512.0	34.7
0°-180°	4358.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1149	1149	1149	1149	1149	
5°	1152	1143	1136	1142	1150	109
15°	1095	1086	1079	1081	1089	308
25°	986	984	955	975	977	454
35°	841	832	790	820	829	526
45°	676	662	624	651	663	521
55°	504	495	460	485	490	449
65°	334	326	301	318	321	330
75°	172	165	152	158	159	182
85°	39	40	37	38	37	44
90°	1	3	2	3	1	4
95°	24	26	25	24	18	26
105°	95	99	98	96	88	100
115°	182	187	184	181	174	180
125°	267	273	270	267	259	239
135°	349	356	353	349	339	269
145°	424	433	426	426	414	265
155°	487	492	491	487	478	224
165°	532	530	527	527	525	150
175°	554	547	537	546	550	53
180°	548	548	548	548	548	



TEST NUMBER: P199503

CATALOG NUMBER: S124-DIP-ULO-1-35-X-X0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8
2.5°	1157.1	1143.9	1148.1	1145.3	1137.7	1145.3	1147.4	1143.3	1155.8
5°	1151.6	1139.1	1143.3	1139.1	1135.6	1138.4	1141.9	1137.0	1149.5
7.5°	1143.3	1130.1	1133.5	1130.1	1126.6	1129.4	1131.4	1127.3	1140.5
10°	1131.4	1117.6	1121.0	1116.9	1112.7	1115.5	1117.6	1113.4	1126.6
12.5°	1114.8	1101.6	1104.4	1101.6	1098.1	1098.8	1100.2	1096.0	1109.9
15°	1094.6	1081.4	1086.3	1083.5	1078.7	1081.4	1080.7	1075.9	1089.1
17.5°	1071.7	1059.2	1064.8	1062.0	1055.0	1059.2	1059.2	1051.6	1065.5
20°	1046.7	1033.5	1041.2	1034.2	1026.6	1030.7	1034.2	1025.2	1039.1
22.5°	1018.9	1005.0	1014.1	1001.6	993.2	998.1	1006.4	996.7	1009.2
25°	986.3	975.2	983.5	966.1	955.0	962.0	975.2	965.4	977.3
27.5°	954.3	943.2	950.2	930.7	915.4	924.5	941.1	932.8	943.2
30°	918.9	909.9	913.4	890.4	874.5	884.2	903.6	898.8	907.1
32.5°	880.0	873.1	873.1	848.8	832.1	843.2	864.0	862.7	868.2
35°	841.1	837.0	832.1	805.7	789.7	800.1	820.3	825.8	829.3
37.5°	801.5	798.8	789.7	764.0	748.7	759.9	778.6	786.9	789.0
40°	760.5	759.2	746.7	722.3	707.1	718.2	737.6	748.0	747.4
42.5°	718.9	720.3	705.0	681.4	666.1	677.2	695.3	709.2	705.7
45°	675.8	680.0	661.9	640.4	624.4	636.2	650.8	668.2	662.6
47.5°	634.1	639.0	620.2	598.0	582.7	595.2	609.8	628.6	620.2
50°	586.9	596.6	578.6	556.3	541.1	552.9	570.2	586.2	576.5
52.5°	545.9	552.9	536.9	515.4	500.8	510.5	527.9	543.8	533.4
55°	503.6	511.2	495.2	473.7	459.8	469.5	484.8	500.8	490.4
57.5°	459.1	466.7	452.2	432.7	419.5	429.9	445.9	457.0	447.3
60°	416.0	425.8	409.8	391.0	379.9	388.3	400.8	414.0	404.2
62.5°	374.4	383.4	368.1	350.8	340.3	348.0	361.2	371.6	362.6
65°	334.1	339.6	326.4	310.5	301.4	306.3	318.1	329.9	320.9
67.5°	293.1	298.7	285.5	271.6	262.5	267.4	277.1	288.2	279.9
70°	251.4	256.3	245.2	232.7	225.0	229.9	238.9	247.3	239.6
72.5°	211.8	215.3	204.9	195.2	189.6	193.1	199.3	207.0	203.5
75°	171.6	175.7	165.3	157.0	152.1	153.5	158.4	164.6	159.1
77.5°	133.4	137.5	129.2	122.9	120.2	120.9	124.3	129.2	122.2
80°	97.9	101.4	96.5	91.0	88.2	89.6	91.7	94.5	91.7
82.5°	66.0	69.5	66.0	62.5	60.4	61.8	62.5	63.9	61.8
85°	38.9	41.7	39.6	37.5	36.8	36.8	37.5	38.9	36.8
87.5°	17.4	19.4	18.1	16.7	14.6	15.3	16.0	17.4	16.0
90°	1.4	3.5	2.8	2.1	2.1	2.1	2.8	3.5	1.4
92.5°	10.7	12.1	12.5	11.4	11.4	11.1	10.4	10.0	6.4
95°	23.6	25.7	26.1	26.1	25.3	24.6	23.9	22.1	18.2
97.5°	38.2	40.7	41.4	40.7	41.0	40.3	38.5	36.8	32.8
100°	55.0	58.2	58.9	58.2	58.5	56.7	56.0	54.2	49.6
102.5°	73.5	77.4	77.8	77.1	77.1	75.7	74.9	72.8	68.2
105°	94.6	98.9	99.2	97.8	97.8	96.4	95.6	93.5	88.2
107.5°	116.0	120.3	120.3	118.8	118.8	117.8	116.3	114.9	109.6
110°	138.1	141.7	142.4	140.6	140.3	139.2	137.8	135.6	131.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	160.2	163.8	164.5	162.4	162.0	159.9	159.5	157.0	152.4
115°	182.4	185.9	187.0	184.5	183.8	181.3	181.3	178.8	174.5
117.5°	203.8	208.1	209.1	206.3	205.9	203.8	202.4	200.2	195.6
120°	225.2	230.6	231.3	228.1	227.7	225.2	224.5	221.6	217.0
122.5°	246.6	252.0	253.0	250.2	249.1	245.9	245.5	243.0	238.1
125°	267.0	273.0	273.0	271.6	270.5	268.0	266.6	263.7	258.8
127.5°	288.0	294.4	294.1	293.0	291.9	288.4	287.3	284.4	279.1
130°	308.7	314.4	314.4	313.7	313.0	309.8	308.0	305.1	299.1
132.5°	329.1	334.8	335.5	333.7	333.0	328.7	329.1	325.5	319.4
135°	349.0	354.0	355.8	353.0	352.6	348.0	349.4	344.8	338.7
137.5°	368.7	372.6	375.8	372.2	371.9	367.2	369.4	363.3	358.0
140°	388.0	391.2	395.4	391.2	390.4	386.2	388.3	381.9	377.2
142.5°	406.2	409.0	414.4	409.7	408.7	404.7	407.2	399.7	395.4
145°	423.6	425.8	432.9	427.9	426.5	422.9	426.1	416.9	413.6
147.5°	441.1	442.2	450.4	445.8	443.6	440.8	444.0	433.6	431.1
150°	457.5	457.5	465.8	462.2	460.4	457.2	459.3	449.3	447.6
152.5°	472.9	472.2	479.7	477.5	476.5	472.9	473.6	464.3	463.3
155°	487.2	485.7	492.5	491.5	490.7	487.2	487.2	477.9	478.2
157.5°	500.7	497.9	504.3	503.9	502.5	499.7	498.9	490.7	491.8
160°	512.5	510.0	514.3	513.6	512.5	509.7	509.7	502.5	504.3
162.5°	522.9	519.6	523.2	521.1	520.7	517.5	518.9	512.9	515.4
165°	531.8	528.6	530.4	527.5	527.1	524.3	526.8	522.5	525.4
167.5°	539.6	536.1	535.7	533.2	532.5	530.4	533.2	530.7	533.9
170°	545.7	542.1	541.1	536.8	536.1	534.3	538.6	537.8	540.7
172.5°	550.3	546.8	544.3	539.3	536.8	537.1	542.8	542.8	546.1
175°	553.6	549.6	546.8	541.8	537.1	540.0	546.1	546.4	550.0
177.5°	554.3	550.3	547.8	543.2	541.4	541.8	548.2	548.2	552.1
180°	547.5	547.5	547.5	547.5	547.5	547.5	547.5	547.5	547.5

(END OF REPORT)