

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: P199515

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199515  
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-LO-35-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LLO-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: 2974.6 lumens  
Efficiency: N/A  
Efficacy: 110.6 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: General Diffuse

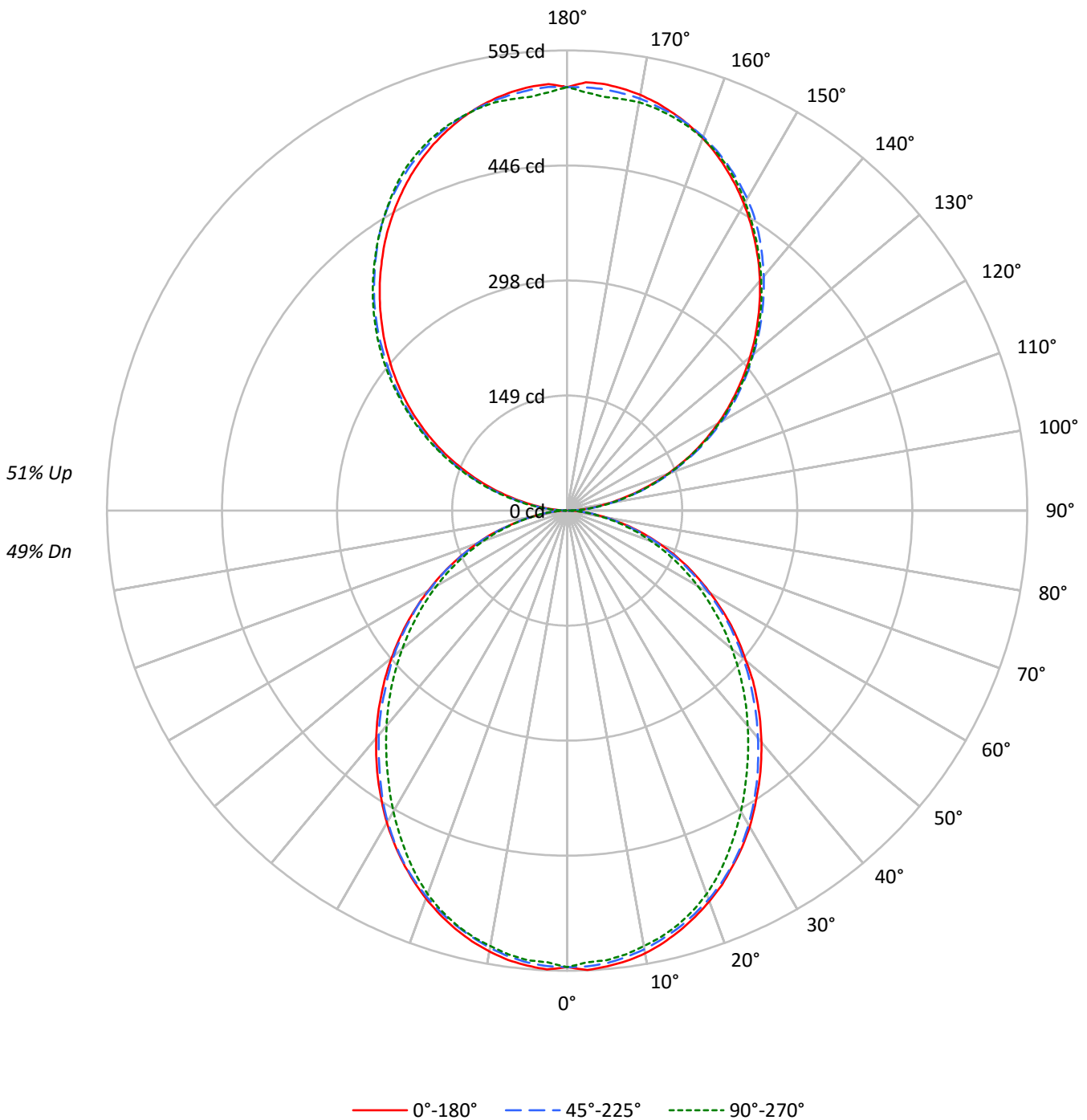
Input Watts (W): 26.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	98	93	90	86	90	86	83	80	73	70	68	60	59	57	49	48	47	42
2	89	82	76	70	82	75	70	66	64	60	57	53	50	48	43	41	40	35
3	81	72	65	59	75	66	60	55	56	52	48	47	44	41	38	36	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	32	29	26
5	68	57	49	43	63	53	45	40	45	39	35	38	34	30	31	28	26	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	17
8	54	42	34	29	50	39	32	27	34	28	24	28	24	21	24	20	18	16
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	13

**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	1.9
10°-20°	156.7	5.3
20°-30°	229.5	7.7
30°-40°	263.1	8.8
40°-50°	259.3	8.7
50°-60°	223.5	7.5
60°-70°	163.0	5.5
70°-80°	88.9	3.0
80°-90°	23.3	0.8
90°-100°	28.2	0.9
100°-110°	102.1	3.4
110°-120°	180.7	6.1
120°-130°	240.2	8.1
130°-140°	270.1	9.1
140°-150°	265.6	8.9
150°-160°	224.2	7.5
160°-170°	148.7	5.0
170°-180°	51.8	1.7
0°-30°	441.8	14.9
0°-40°	704.8	23.7
0°-60°	1187.7	39.9
0°-90°	1463.0	49.2
90°-120°	310.9	10.5
90°-150°	1086.9	36.5
90°-180°	1512.0	50.8
0°-180°	2974.6	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	3
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	



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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°	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)