

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: P243528

Luminaire Tested: **S124DR-H350D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243528  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DR-H350D830-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1269.2 lumens  
Efficiency: N/A  
Efficacy: 113.3 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct

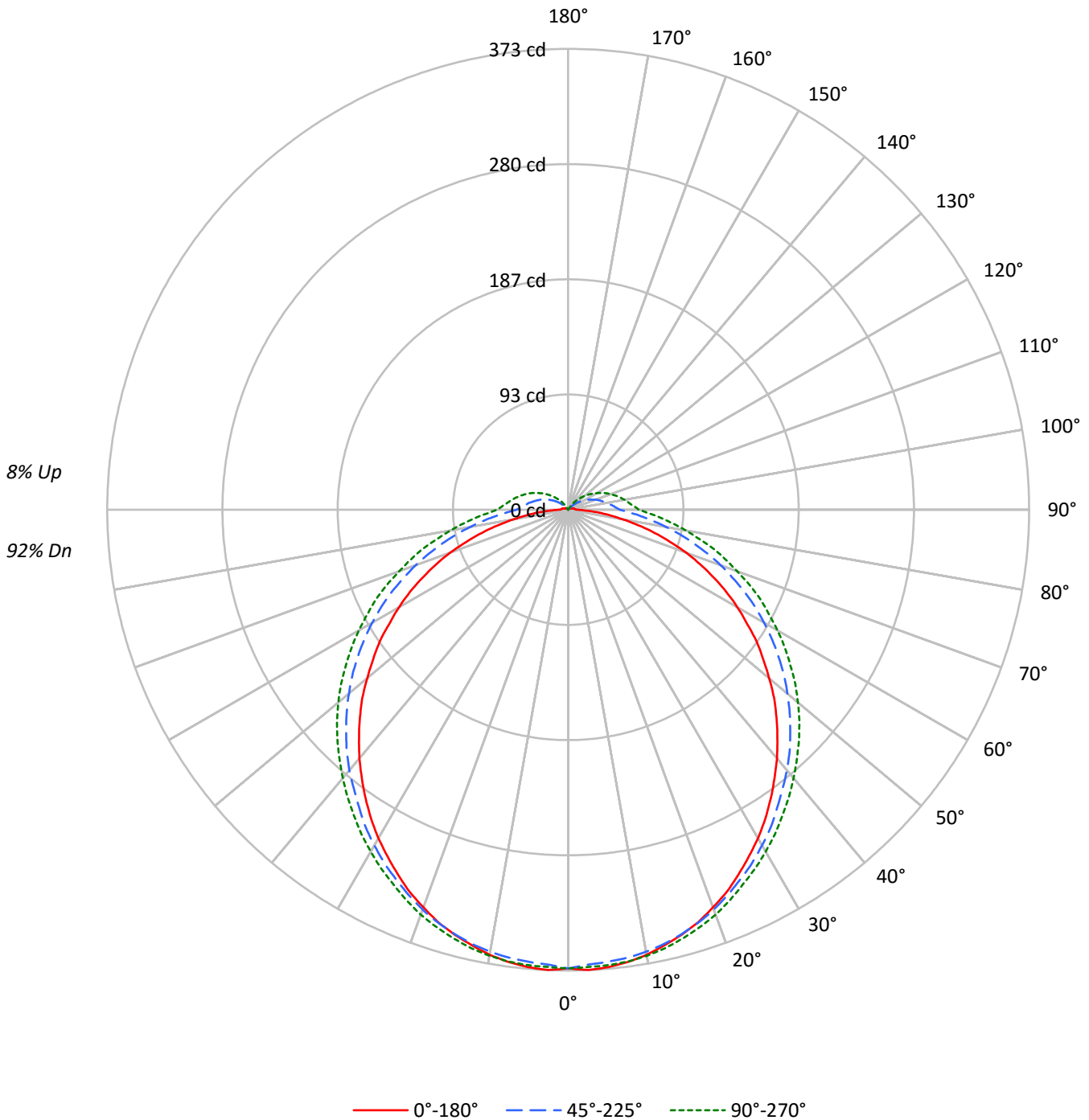
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P243528

CATALOG NUMBER: S124DR-H350D830-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P243528

CATALOG NUMBER: S124DR-H350D830-X4F0-XX-UDD-D-W

**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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

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

	0°	45°	90°
0°	3300	3300	3300
5°	3310	3221	3227
10°	3289	3166	3160
15°	3256	3102	3084
20°	3215	3034	3008
25°	3165	2955	2919
30°	3112	2881	2843
35°	3054	2799	2763
40°	2995	2729	2690
45°	2933	2654	2620
50°	2862	2577	2547
55°	2800	2496	2462
60°	2711	2406	2380
65°	2610	2304	2296
70°	2488	2189	2178
75°	2295	2048	2091
80°	2035	1912	1970
85°	1842	1801	1900



TEST NUMBER: P243528

CATALOG NUMBER: S124DR-H350D830-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.2	2.8
10°-20°	100.8	7.9
20°-30°	152.6	12.0
30°-40°	184.7	14.6
40°-50°	195.4	15.4
50°-60°	184.1	14.5
60°-70°	153.0	12.1
70°-80°	107.5	8.5
80°-90°	60.6	4.8
90°-100°	35.9	2.8
100°-110°	26.6	2.1
110°-120°	17.8	1.4
120°-130°	10.0	0.8
130°-140°	4.3	0.3
140°-150°	0.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	288.5	22.7
0°-40°	473.3	37.3
0°-60°	852.8	67.2
0°-90°	1173.8	92.5
90°-120°	80.3	6.3
90°-150°	95.4	7.5
90°-180°	95.0	7.5
0°-180°	1269.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	371	371	371	371	371	
5°	372	370	367	370	370	35
15°	356	357	356	360	359	100
25°	326	329	330	335	335	150
35°	286	290	295	301	302	179
45°	238	246	254	262	264	184
55°	186	196	208	217	219	166
65°	130	143	157	167	172	129
75°	72	88	105	117	122	76
85°	22	40	59	71	75	23
90°	7	23	42	53	57	4
95°	6	19	36	48	51	4
105°	4	12	28	38	41	4
115°	3	6	19	28	32	3
125°	2	1	11	19	22	2
135°	1	1	4	10	13	1
145°	0	0	0	2	4	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P243528

CATALOG NUMBER: S124DR-H350D830-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	371.3	371.3	371.3	371.3	371.3
2.5°	372.9	371.7	368.5	370.9	370.5
5°	371.7	370.1	367.4	370.5	370.1
7.5°	369.3	368.1	365.8	369.3	368.9
10°	365.8	365.0	363.4	366.6	366.6
12.5°	361.0	361.0	359.9	363.4	363.4
15°	355.9	356.7	355.5	359.5	359.1
17.5°	350.0	350.8	350.4	354.3	354.3
20°	342.5	343.7	344.5	348.8	348.8
22.5°	335.0	336.6	337.4	342.1	342.1
25°	325.9	328.7	329.9	334.6	334.6
27.5°	316.5	320.0	322.4	326.7	327.5
30°	307.0	310.9	313.7	318.4	319.6
32.5°	296.7	300.7	305.0	309.7	311.3
35°	285.7	290.4	294.7	301.1	302.2
37.5°	274.2	279.8	284.9	291.6	293.2
40°	262.8	269.5	275.4	281.7	283.7
42.5°	250.6	257.3	265.2	271.9	273.8
45°	238.3	245.8	254.1	261.6	264.0
47.5°	226.1	234.0	243.1	251.0	253.7
50°	212.3	221.0	231.6	239.5	242.7
52.5°	198.9	208.3	220.2	228.1	231.6
55°	186.2	196.1	207.9	217.0	219.4
57.5°	171.6	182.7	195.7	205.6	207.9
60°	158.2	169.3	183.1	192.9	195.7
62.5°	144.4	156.3	170.5	180.3	183.1
65°	129.8	142.8	157.4	167.3	171.6
67.5°	115.6	128.6	144.0	155.1	158.6
70°	101.4	114.8	131.4	142.4	145.2
72.5°	86.4	101.0	118.0	129.4	133.4
75°	72.2	87.6	105.0	116.8	121.5
77.5°	58.4	74.6	92.7	105.0	108.1
80°	44.6	62.3	80.5	92.7	96.7
82.5°	33.5	50.1	69.1	82.1	85.2
85°	22.5	39.9	58.8	71.4	75.4
87.5°	13.4	31.2	49.3	61.2	65.1
90°	6.7	23.3	41.8	53.3	57.2
92.5°	5.9	20.9	38.7	50.1	54.1
95°	5.5	18.9	36.3	47.7	50.9
97.5°	5.1	17.4	33.9	45.0	48.5
100°	4.7	15.4	32.0	42.6	46.2
102.5°	4.3	13.8	29.6	40.2	43.8
105°	3.9	12.2	27.6	37.9	41.4
107.5°	3.6	10.7	25.6	35.5	39.1
110°	3.2	9.1	23.7	33.1	36.7



TEST NUMBER: P243528

CATALOG NUMBER: S124DR-H350D830-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.8	7.9	21.3	30.8	34.3
115°	2.8	6.3	19.3	28.4	32.0
117.5°	2.4	4.7	17.4	26.0	29.2
120°	2.4	3.6	15.4	23.7	26.8
122.5°	2.0	2.4	13.4	21.7	24.5
125°	1.6	1.2	11.4	19.3	22.1
127.5°	1.6	1.2	9.5	17.0	19.7
130°	1.2	1.2	7.5	14.6	17.4
132.5°	1.2	0.8	5.5	12.6	15.0
135°	0.8	0.8	3.6	10.3	12.6
137.5°	0.8	0.4	2.4	8.3	10.7
140°	0.8	0.4	0.8	6.3	8.3
142.5°	0.4	0.4	0.0	4.3	5.9
145°	0.4	0.0	0.0	2.4	3.9
147.5°	0.4	0.0	0.0	0.4	2.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)