

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: P242687

Luminaire Tested: **S124DR-S350D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242687  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DR-S350D935-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1144.6 lumens  
Efficiency: N/A  
Efficacy: 98.7 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

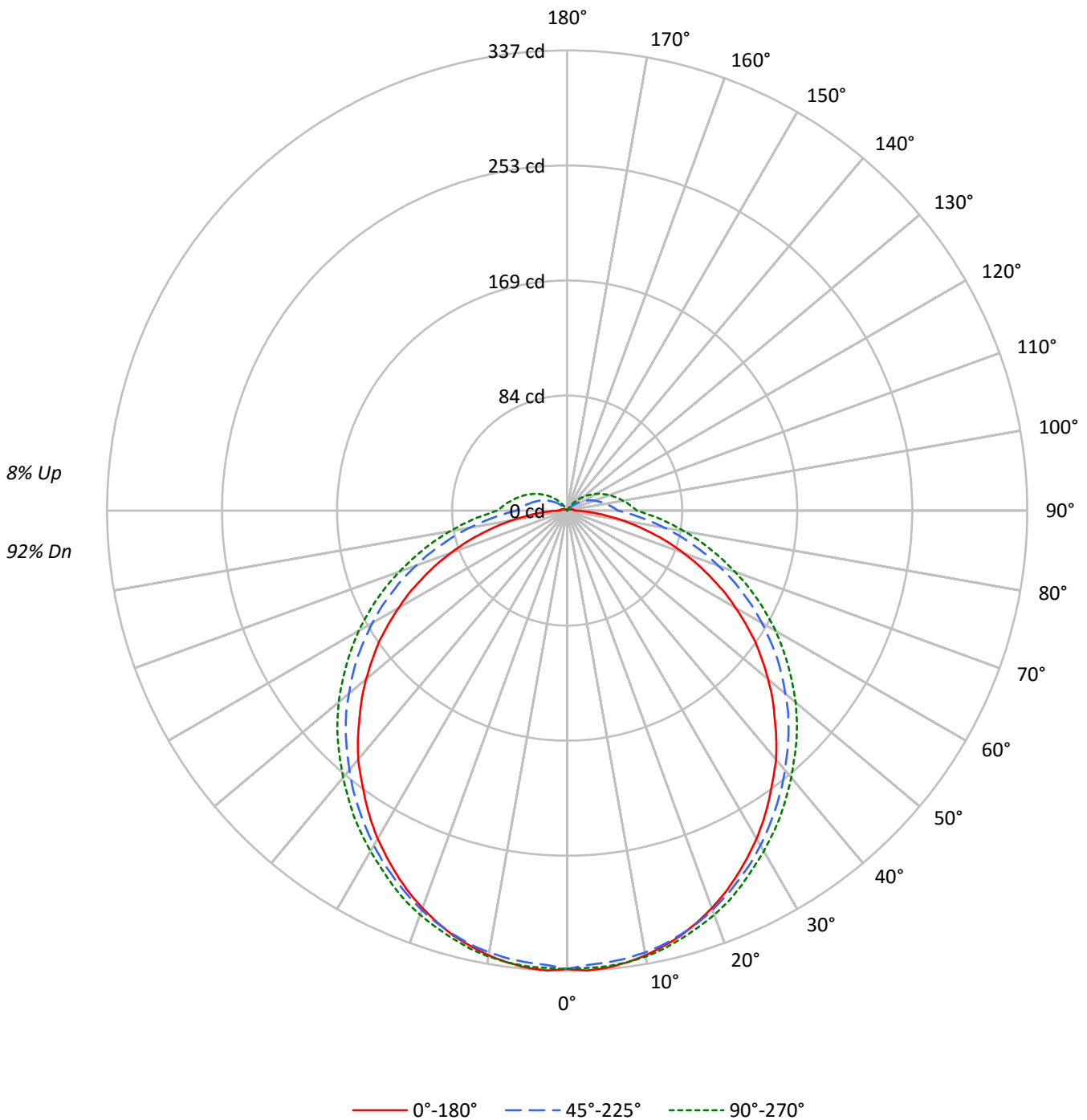
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	87	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	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	2984	2984	2984
5°	2993	2913	2921
10°	2975	2863	2859
15°	2948	2805	2786
20°	2908	2741	2716
25°	2862	2670	2640
30°	2812	2600	2562
35°	2757	2528	2493
40°	2713	2459	2421
45°	2646	2395	2358
50°	2590	2321	2292
55°	2532	2252	2215
60°	2442	2164	2144
65°	2342	2070	2058
70°	2223	1961	1956
75°	2057	1842	1864
80°	1871	1724	1769
85°	1629	1611	1706



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.8	2.8
10°-20°	91.1	8.0
20°-30°	137.8	12.0
30°-40°	166.7	14.6
40°-50°	176.2	15.4
50°-60°	165.9	14.5
60°-70°	137.6	12.0
70°-80°	96.6	8.4
80°-90°	54.5	4.8
90°-100°	32.4	2.8
100°-110°	24.0	2.1
110°-120°	16.1	1.4
120°-130°	9.1	0.8
130°-140°	3.9	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°	260.7	22.8
0°-40°	427.5	37.3
0°-60°	769.6	67.2
0°-90°	1058.3	92.5
90°-120°	72.5	6.3
90°-150°	86.3	7.5
90°-180°	86.0	7.5
0°-180°	1144.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	336	336	336	336	336	
5°	336	335	332	335	335	32
15°	322	323	321	325	324	91
25°	295	297	298	302	303	136
35°	258	262	266	271	273	161
45°	215	222	229	236	238	166
55°	168	176	188	195	197	150
65°	116	129	141	151	154	116
75°	65	79	94	105	108	69
85°	20	36	53	64	68	21
90°	6	21	37	48	51	4
95°	5	17	33	43	46	4
105°	3	11	25	34	37	4
115°	2	6	18	26	29	2
125°	2	1	10	18	20	1
135°	1	1	3	9	12	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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	335.7	335.7	335.7	335.7	335.7
2.5°	337.2	336.1	333.1	335.7	335.3
5°	336.1	335.0	332.3	335.3	335.0
7.5°	333.8	333.1	330.8	334.2	333.8
10°	330.8	330.4	328.6	331.9	331.6
12.5°	326.7	326.7	325.6	328.6	328.6
15°	322.2	322.6	321.4	324.8	324.4
17.5°	316.2	317.3	316.9	320.3	319.9
20°	309.8	310.9	311.3	315.0	315.0
22.5°	302.6	304.1	304.9	308.6	309.4
25°	294.7	297.0	298.1	302.2	302.6
27.5°	286.1	289.5	291.0	294.7	295.1
30°	277.4	280.4	283.1	287.2	288.0
32.5°	268.0	271.8	274.8	279.7	280.4
35°	257.9	262.4	266.2	271.4	272.6
37.5°	247.7	253.0	257.5	262.8	263.9
40°	238.0	242.9	248.1	253.8	255.3
42.5°	226.7	232.3	238.7	245.1	246.2
45°	215.0	222.2	229.3	235.7	237.6
47.5°	204.1	211.3	219.5	225.9	228.2
50°	192.1	200.4	208.6	216.2	218.4
52.5°	180.1	188.3	198.1	205.6	207.9
55°	168.4	176.3	187.6	195.1	197.4
57.5°	155.3	165.0	175.9	185.0	186.8
60°	142.5	152.3	164.7	173.3	176.3
62.5°	130.1	141.0	153.4	162.0	165.0
65°	116.5	128.6	141.4	150.7	153.8
67.5°	103.8	116.5	130.1	139.5	142.5
70°	90.6	103.4	117.7	127.8	130.4
72.5°	77.8	91.0	106.4	116.2	119.2
75°	64.7	78.6	94.4	104.9	108.3
77.5°	52.3	66.9	83.5	94.0	97.7
80°	41.0	56.0	72.6	83.8	86.8
82.5°	29.7	45.5	62.0	73.7	77.1
85°	19.9	35.7	52.6	63.9	67.7
87.5°	12.4	27.8	44.4	55.3	58.6
90°	6.0	21.1	37.2	48.1	51.1
92.5°	5.6	18.8	35.0	45.5	48.5
95°	4.9	17.3	32.7	42.9	46.2
97.5°	4.5	15.4	30.8	40.6	44.0
100°	4.1	13.9	28.6	38.7	41.4
102.5°	4.1	12.4	26.7	36.5	39.5
105°	3.4	10.9	24.8	34.2	37.2
107.5°	3.4	9.8	22.9	32.3	35.0
110°	3.0	8.3	21.4	30.1	33.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	7.1	19.5	27.8	30.8
115°	2.3	5.6	17.7	25.9	28.6
117.5°	2.3	4.5	15.8	23.7	26.7
120°	1.9	3.0	13.9	21.4	24.4
122.5°	1.9	1.9	12.0	19.5	22.2
125°	1.5	1.1	10.5	17.7	19.9
127.5°	1.5	1.1	8.6	15.4	18.0
130°	1.1	0.8	6.8	13.5	15.8
132.5°	1.1	0.8	5.3	11.7	13.9
135°	0.8	0.8	3.4	9.4	11.7
137.5°	0.8	0.4	1.9	7.5	9.4
140°	0.8	0.4	0.8	5.6	7.5
142.5°	0.4	0.4	0.0	4.1	5.6
145°	0.4	0.0	0.0	2.3	3.8
147.5°	0.4	0.0	0.0	0.4	1.9
150°	0.4	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)