

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: P243552

Luminaire Tested: **S124DR-H350D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243552  
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-H350D940-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1200.8 lumens  
Efficiency: N/A  
Efficacy: 107.2 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

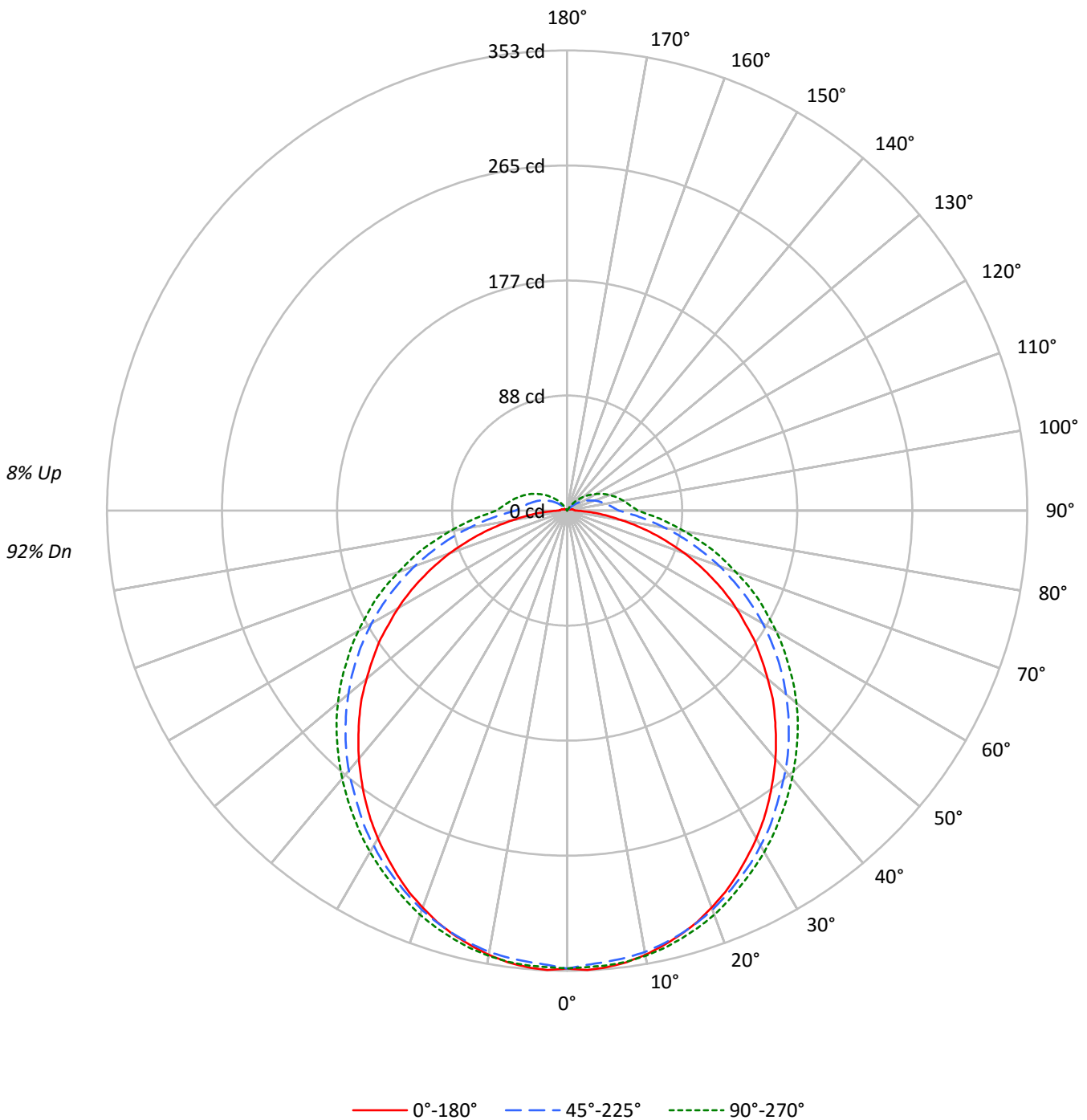
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	3123	3123	3123
5°	3131	3046	3054
10°	3111	2996	2990
15°	3081	2935	2918
20°	3041	2870	2845
25°	2994	2795	2762
30°	2944	2726	2690
35°	2890	2649	2614
40°	2834	2582	2545
45°	2775	2510	2478
50°	2707	2438	2409
55°	2649	2361	2330
60°	2566	2276	2252
65°	2469	2179	2173
70°	2353	2071	2061
75°	2171	1937	1980
80°	1925	1810	1864
85°	1744	1703	1796



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.3	2.8
10°-20°	95.4	7.9
20°-30°	144.3	12.0
30°-40°	174.8	14.6
40°-50°	184.9	15.4
50°-60°	174.1	14.5
60°-70°	144.7	12.1
70°-80°	101.7	8.5
80°-90°	57.3	4.8
90°-100°	34.0	2.8
100°-110°	25.2	2.1
110°-120°	16.8	1.4
120°-130°	9.5	0.8
130°-140°	4.0	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°	273.0	22.7
0°-40°	447.7	37.3
0°-60°	806.8	67.2
0°-90°	1110.5	92.5
90°-120°	76.0	6.3
90°-150°	90.3	7.5
90°-180°	90.0	7.5
0°-180°	1200.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	351	351	351	351	351	
5°	352	350	348	350	350	33
15°	337	338	336	340	340	95
25°	308	311	312	317	317	142
35°	270	275	279	285	286	169
45°	226	233	240	248	250	174
55°	176	186	197	205	208	157
65°	123	135	149	158	162	122
75°	68	83	99	110	115	72
85°	21	38	56	68	71	22
90°	6	22	40	50	54	4
95°	5	18	34	45	48	4
105°	4	12	26	36	39	4
115°	3	6	18	27	30	2
125°	2	1	11	18	21	1
135°	1	1	3	10	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°	351.3	351.3	351.3	351.3	351.3
2.5°	352.8	351.6	348.7	350.9	350.5
5°	351.6	350.2	347.5	350.5	350.2
7.5°	349.4	348.3	346.0	349.4	349.0
10°	346.0	345.3	343.8	346.8	346.8
12.5°	341.6	341.6	340.4	343.8	343.8
15°	336.7	337.5	336.3	340.1	339.7
17.5°	331.1	331.9	331.5	335.2	335.2
20°	324.0	325.1	325.9	330.0	330.0
22.5°	316.9	318.4	319.2	323.6	323.6
25°	308.3	311.0	312.1	316.6	316.6
27.5°	299.4	302.7	305.0	309.1	309.8
30°	290.4	294.2	296.8	301.3	302.4
32.5°	280.7	284.5	288.6	293.0	294.5
35°	270.3	274.7	278.9	284.8	285.9
37.5°	259.4	264.7	269.5	275.9	277.4
40°	248.6	255.0	260.6	266.5	268.4
42.5°	237.0	243.4	250.9	257.2	259.1
45°	225.5	232.6	240.4	247.5	249.7
47.5°	213.9	221.4	230.0	237.4	240.0
50°	200.8	209.0	219.1	226.6	229.6
52.5°	188.1	197.1	208.3	215.8	219.1
55°	176.2	185.5	196.7	205.3	207.6
57.5°	162.4	172.8	185.2	194.5	196.7
60°	149.7	160.1	173.2	182.5	185.2
62.5°	136.6	147.8	161.3	170.6	173.2
65°	122.8	135.1	148.9	158.3	162.4
67.5°	109.4	121.7	136.3	146.7	150.1
70°	95.9	108.6	124.3	134.8	137.4
72.5°	81.8	95.6	111.6	122.4	126.2
75°	68.3	82.9	99.3	110.5	115.0
77.5°	55.2	70.6	87.7	99.3	102.3
80°	42.2	59.0	76.2	87.7	91.5
82.5°	31.7	47.4	65.3	77.6	80.6
85°	21.3	37.7	55.6	67.6	71.3
87.5°	12.7	29.5	46.7	57.9	61.6
90°	6.3	22.0	39.6	50.4	54.1
92.5°	5.6	19.8	36.6	47.4	51.1
95°	5.2	17.9	34.3	45.2	48.2
97.5°	4.9	16.4	32.1	42.6	45.9
100°	4.5	14.6	30.2	40.3	43.7
102.5°	4.1	13.1	28.0	38.1	41.4
105°	3.7	11.6	26.1	35.8	39.2
107.5°	3.4	10.1	24.3	33.6	37.0
110°	3.0	8.6	22.4	31.4	34.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	7.5	20.2	29.1	32.5
115°	2.6	6.0	18.3	26.9	30.2
117.5°	2.2	4.5	16.4	24.6	27.6
120°	2.2	3.4	14.6	22.4	25.4
122.5°	1.9	2.2	12.7	20.5	23.1
125°	1.5	1.1	10.8	18.3	20.9
127.5°	1.5	1.1	9.0	16.1	18.7
130°	1.1	1.1	7.1	13.8	16.4
132.5°	1.1	0.7	5.2	11.9	14.2
135°	0.7	0.7	3.4	9.7	11.9
137.5°	0.7	0.4	2.2	7.8	10.1
140°	0.7	0.4	0.7	6.0	7.8
142.5°	0.4	0.4	0.0	4.1	5.6
145°	0.4	0.0	0.0	2.2	3.7
147.5°	0.4	0.0	0.0	0.4	1.9
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)