

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: P243542

Luminaire Tested: **S124DR-H350D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243542  
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-H350D930-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1097.8 lumens  
Efficiency: N/A  
Efficacy: 98.0 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

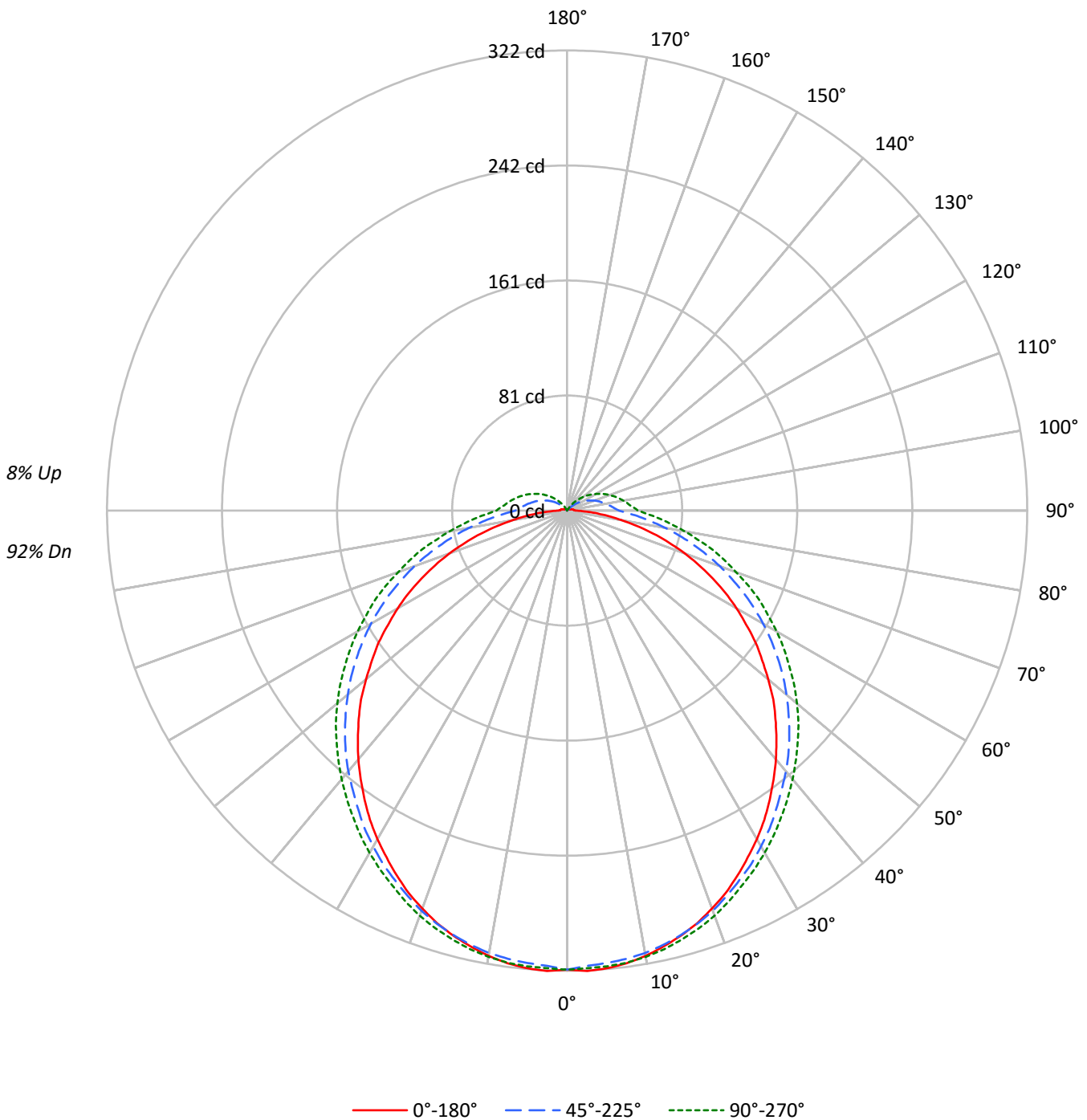
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2855	2855	2855
5°	2863	2786	2791
10°	2845	2738	2734
15°	2817	2683	2668
20°	2781	2624	2601
25°	2737	2555	2524
30°	2692	2492	2459
35°	2642	2422	2390
40°	2591	2360	2327
45°	2538	2295	2266
50°	2476	2229	2203
55°	2422	2160	2130
60°	2346	2081	2059
65°	2258	1994	1987
70°	2152	1894	1884
75°	1987	1771	1809
80°	1761	1653	1703
85°	1596	1559	1643



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.4	2.8
10°-20°	87.2	7.9
20°-30°	132.0	12.0
30°-40°	159.8	14.6
40°-50°	169.0	15.4
50°-60°	159.2	14.5
60°-70°	132.3	12.1
70°-80°	93.0	8.5
80°-90°	52.4	4.8
90°-100°	31.1	2.8
100°-110°	23.0	2.1
110°-120°	15.4	1.4
120°-130°	8.7	0.8
130°-140°	3.7	0.3
140°-150°	0.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	249.6	22.7
0°-40°	409.4	37.3
0°-60°	737.6	67.2
0°-90°	1015.3	92.5
90°-120°	69.4	6.3
90°-150°	82.5	7.5
90°-180°	83.0	7.6
0°-180°	1097.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	321	321	321	321	321	
5°	322	320	318	320	320	31
15°	308	308	308	311	311	87
25°	282	284	285	289	289	130
35°	247	251	255	260	261	155
45°	206	213	220	226	228	159
55°	161	170	180	188	190	144
65°	112	124	136	145	148	111
75°	62	76	91	101	105	66
85°	20	34	51	62	65	20
90°	6	20	36	46	50	4
95°	5	16	31	41	44	4
105°	3	11	24	33	36	4
115°	2	6	17	25	28	2
125°	1	1	10	17	19	1
135°	1	1	3	9	11	1
145°	0	0	0	2	3	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°	321.2	321.2	321.2	321.2	321.2
2.5°	322.5	321.5	318.8	320.8	320.5
5°	321.5	320.1	317.8	320.5	320.1
7.5°	319.5	318.4	316.4	319.5	319.1
10°	316.4	315.7	314.3	317.1	317.1
12.5°	312.3	312.3	311.3	314.3	314.3
15°	307.9	308.5	307.5	310.9	310.6
17.5°	302.7	303.4	303.1	306.5	306.5
20°	296.3	297.3	298.0	301.7	301.7
22.5°	289.8	291.1	291.8	295.9	295.9
25°	281.9	284.3	285.3	289.4	289.4
27.5°	273.7	276.8	278.9	282.6	283.3
30°	265.5	269.0	271.3	275.4	276.5
32.5°	256.7	260.1	263.8	267.9	269.3
35°	247.1	251.2	255.0	260.4	261.4
37.5°	237.2	242.0	246.4	252.2	253.6
40°	227.3	233.1	238.2	243.7	245.4
42.5°	216.7	222.5	229.4	235.2	236.9
45°	206.2	212.6	219.8	226.3	228.3
47.5°	195.6	202.4	210.2	217.1	219.5
50°	183.6	191.1	200.3	207.2	209.9
52.5°	172.0	180.2	190.5	197.3	200.3
55°	161.1	169.6	179.9	187.7	189.8
57.5°	148.5	158.0	169.3	177.8	179.9
60°	136.9	146.4	158.4	166.9	169.3
62.5°	124.9	135.2	147.4	156.0	158.4
65°	112.3	123.6	136.2	144.7	148.5
67.5°	100.0	111.3	124.6	134.1	137.2
70°	87.7	99.3	113.7	123.2	125.6
72.5°	74.7	87.4	102.1	111.9	115.4
75°	62.5	75.8	90.8	101.0	105.1
77.5°	50.5	64.5	80.2	90.8	93.5
80°	38.6	53.9	69.6	80.2	83.6
82.5°	29.0	43.3	59.7	71.0	73.7
85°	19.5	34.5	50.9	61.8	65.2
87.5°	11.6	27.0	42.7	52.9	56.3
90°	5.8	20.1	36.2	46.1	49.5
92.5°	5.1	18.1	33.4	43.3	46.8
95°	4.8	16.4	31.4	41.3	44.0
97.5°	4.4	15.0	29.4	38.9	42.0
100°	4.1	13.3	27.6	36.9	39.9
102.5°	3.8	11.9	25.6	34.8	37.9
105°	3.4	10.6	23.9	32.8	35.8
107.5°	3.1	9.2	22.2	30.7	33.8
110°	2.7	7.9	20.5	28.7	31.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	6.8	18.4	26.6	29.7
115°	2.4	5.5	16.7	24.6	27.6
117.5°	2.0	4.1	15.0	22.5	25.3
120°	2.0	3.1	13.3	20.5	23.2
122.5°	1.7	2.0	11.6	18.8	21.2
125°	1.4	1.0	9.9	16.7	19.1
127.5°	1.4	1.0	8.2	14.7	17.1
130°	1.0	1.0	6.5	12.6	15.0
132.5°	1.0	0.7	4.8	10.9	13.0
135°	0.7	0.7	3.1	8.9	10.9
137.5°	0.7	0.3	2.0	7.2	9.2
140°	0.7	0.3	0.7	5.5	7.2
142.5°	0.3	0.3	0.0	3.8	5.1
145°	0.3	0.0	0.0	2.0	3.4
147.5°	0.3	0.0	0.0	0.3	1.7
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)