

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P243542

Luminaire Tested: S124DRP-H350D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
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  
Product Line: NEO-RAY  
Catalog Number: S124DRP-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: -

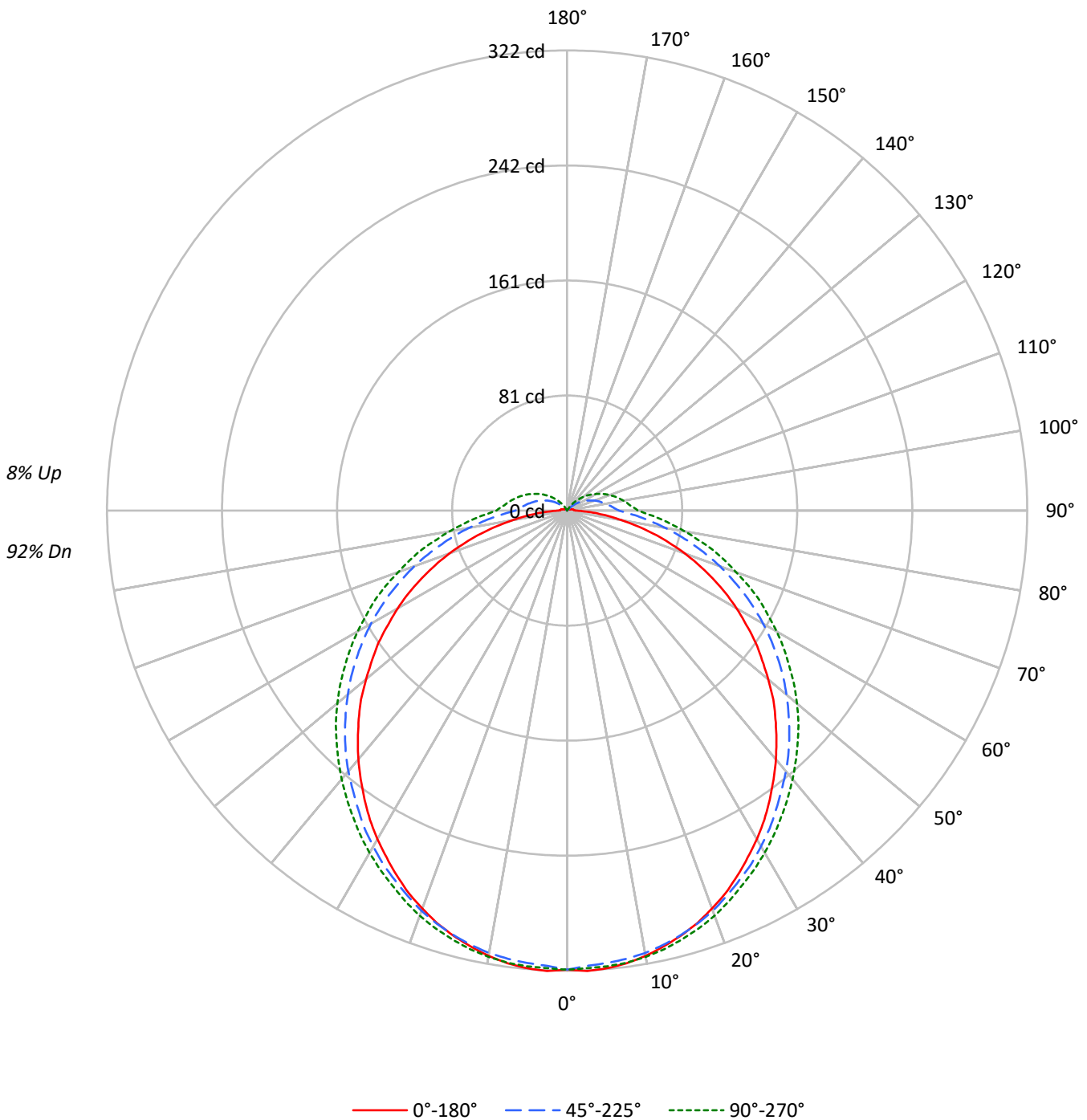
**Summary**

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: 24 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

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2538 cd/sqm



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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

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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.43	14.96	13.91	15.42	15.92	15.01	16.54	15.49	17.01	17.50
	3H	15.08	16.47	15.57	16.95	17.49	17.32	18.72	17.81	19.19	19.73
	4H	15.65	16.97	16.16	17.47	18.02	18.40	19.71	18.91	20.21	20.76
	6H	16.04	17.26	16.56	17.77	18.34	19.44	20.67	19.97	21.17	21.74
	8H	16.14	17.32	16.68	17.85	18.42	19.96	21.13	20.49	21.66	22.23
	12H	16.21	17.33	16.75	17.86	18.46	20.51	21.64	21.05	22.16	22.76
4H	2H	14.29	15.61	14.80	16.10	16.65	15.52	16.83	16.03	17.33	17.88
	3H	16.18	17.30	16.70	17.84	18.41	18.05	19.17	18.57	19.71	20.28
	4H	16.89	17.92	17.43	18.46	19.07	19.28	20.30	19.82	20.85	21.45
	6H	17.41	18.31	17.97	18.88	19.50	20.50	21.40	21.06	21.97	22.59
	8H	17.56	18.41	18.13	18.98	19.62	21.11	21.96	21.68	22.53	23.16
	12H	17.67	18.44	18.26	19.04	19.67	21.77	22.54	22.36	23.14	23.77
8H	4H	17.47	18.32	18.04	18.89	19.52	19.53	20.38	20.10	20.95	21.58
	6H	18.16	18.88	18.76	19.50	20.13	20.91	21.63	21.51	22.25	22.88
	8H	18.41	19.06	19.03	19.69	20.34	21.65	22.30	22.26	22.92	23.57
	12H	18.60	19.18	19.22	19.79	20.51	22.48	23.06	23.09	23.67	24.38
12H	4H	17.61	18.38	18.20	18.98	19.61	19.55	20.32	20.14	20.92	21.55
	6H	18.38	19.03	18.99	19.65	20.30	20.96	21.61	21.58	22.24	22.89
	8H	18.71	19.29	19.33	19.90	20.62	21.77	22.35	22.38	22.96	23.67