

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: P243547

Luminaire Tested: S124DRP-H350D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243547
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-H350D935-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

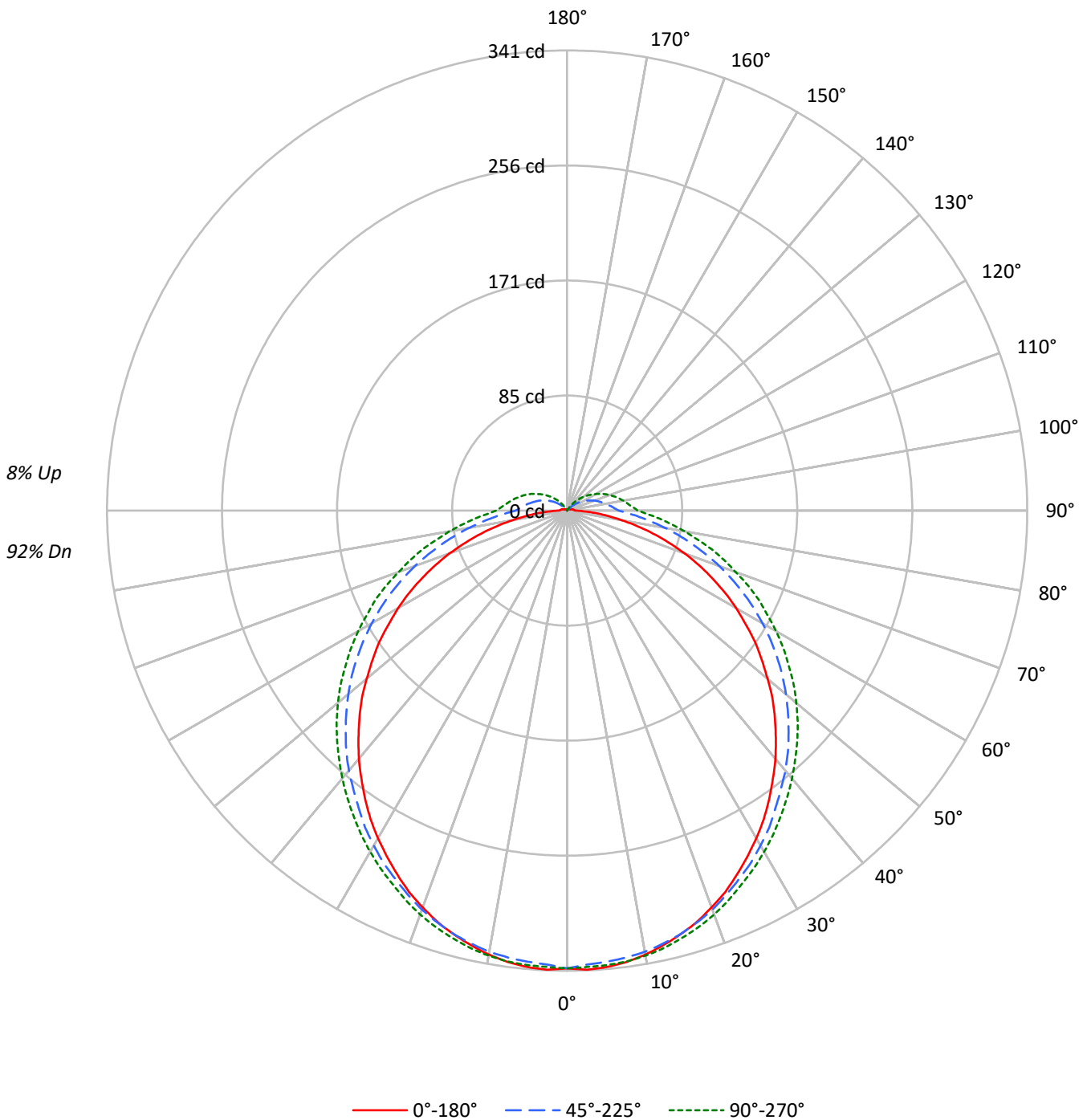
Lumens per Lamp: N/A
Luminaire Lumens: 1159.4 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): 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°	3015	3015	3015
5°	3024	2942	2948
10°	3004	2893	2887
15°	2975	2834	2817
20°	2937	2771	2747
25°	2891	2699	2667
30°	2843	2632	2597
35°	2790	2556	2525
40°	2737	2493	2458
45°	2679	2424	2393
50°	2614	2354	2326
55°	2558	2281	2249
60°	2477	2197	2174
65°	2385	2105	2098
70°	2272	1999	1989
75°	2098	1871	1911
80°	1857	1745	1799
85°	1678	1645	1733

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2679 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.1	2.8
10°-20°	92.1	7.9
20°-30°	139.4	12.0
30°-40°	168.8	14.6
40°-50°	178.5	15.4
50°-60°	168.2	14.5
60°-70°	139.7	12.1
70°-80°	98.2	8.5
80°-90°	55.3	4.8
90°-100°	32.8	2.8
100°-110°	24.3	2.1
110°-120°	16.2	1.4
120°-130°	9.2	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°	263.6	22.7
0°-40°	432.3	37.3
0°-60°	779.0	67.2
0°-90°	1072.2	92.5
90°-120°	73.4	6.3
90°-150°	87.2	7.5
90°-180°	87.0	7.5
0°-180°	1159.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	340	338	336	338	338	32
15°	325	326	325	328	328	92
25°	298	300	301	306	306	137
35°	261	265	269	275	276	163
45°	218	225	232	239	241	168
55°	170	179	190	198	200	152
65°	119	130	144	153	157	117
75°	66	80	96	107	111	70
85°	20	36	54	65	69	21
90°	6	21	38	49	52	4
95°	5	17	33	44	46	4
105°	4	11	25	35	38	4
115°	2	6	18	26	29	2
125°	1	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°	339.2	339.2	339.2	339.2	339.2
2.5°	340.6	339.5	336.7	338.8	338.5
5°	339.5	338.1	335.6	338.5	338.1
7.5°	337.4	336.3	334.1	337.4	337.0
10°	334.1	333.4	332.0	334.9	334.9
12.5°	329.8	329.8	328.7	332.0	332.0
15°	325.1	325.8	324.8	328.4	328.0
17.5°	319.7	320.4	320.1	323.7	323.7
20°	312.9	313.9	314.7	318.6	318.6
22.5°	306.0	307.5	308.2	312.5	312.5
25°	297.7	300.2	301.3	305.7	305.7
27.5°	289.1	292.3	294.5	298.4	299.2
30°	280.4	284.0	286.6	290.9	292.0
32.5°	271.1	274.7	278.6	282.9	284.4
35°	261.0	265.3	269.2	275.0	276.1
37.5°	250.5	255.6	260.2	266.4	267.8
40°	240.1	246.2	251.6	257.4	259.2
42.5°	228.9	235.0	242.2	248.3	250.1
45°	217.7	224.6	232.1	239.0	241.1
47.5°	206.5	213.7	222.0	229.2	231.8
50°	193.9	201.8	211.6	218.8	221.7
52.5°	181.7	190.3	201.1	208.3	211.6
55°	170.1	179.1	190.0	198.2	200.4
57.5°	156.8	166.9	178.8	187.8	190.0
60°	144.5	154.6	167.2	176.3	178.8
62.5°	131.9	142.7	155.7	164.7	167.2
65°	118.6	130.5	143.8	152.8	156.8
67.5°	105.6	117.5	131.6	141.7	144.9
70°	92.6	104.9	120.0	130.1	132.6
72.5°	78.9	92.3	107.8	118.2	121.8
75°	66.0	80.0	95.9	106.7	111.0
77.5°	53.3	68.1	84.7	95.9	98.8
80°	40.7	56.9	73.5	84.7	88.3
82.5°	30.6	45.8	63.1	75.0	77.9
85°	20.5	36.4	53.7	65.2	68.8
87.5°	12.3	28.5	45.1	55.9	59.5
90°	6.1	21.3	38.2	48.7	52.3
92.5°	5.4	19.1	35.3	45.8	49.4
95°	5.0	17.3	33.2	43.6	46.5
97.5°	4.7	15.9	31.0	41.1	44.3
100°	4.3	14.1	29.2	38.9	42.2
102.5°	4.0	12.6	27.0	36.8	40.0
105°	3.6	11.2	25.2	34.6	37.8
107.5°	3.2	9.7	23.4	32.4	35.7
110°	2.9	8.3	21.6	30.3	33.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	7.2	19.5	28.1	31.4
115°	2.5	5.8	17.7	26.0	29.2
117.5°	2.2	4.3	15.9	23.8	26.7
120°	2.2	3.2	14.1	21.6	24.5
122.5°	1.8	2.2	12.3	19.8	22.3
125°	1.4	1.1	10.5	17.7	20.2
127.5°	1.4	1.1	8.7	15.5	18.0
130°	1.1	1.1	6.8	13.3	15.9
132.5°	1.1	0.7	5.0	11.5	13.7
135°	0.7	0.7	3.2	9.4	11.5
137.5°	0.7	0.4	2.2	7.6	9.7
140°	0.7	0.4	0.7	5.8	7.6
142.5°	0.4	0.4	0.0	4.0	5.4
145°	0.4	0.0	0.0	2.2	3.6
147.5°	0.4	0.0	0.0	0.4	1.8
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	13.62	15.15	14.10	15.62	16.11	15.20	16.73	15.68	17.20	17.69
	3H	15.27	16.66	15.76	17.14	17.68	17.52	18.91	18.00	19.38	19.92
	4H	15.84	17.16	16.35	17.65	18.21	18.59	19.90	19.10	20.40	20.95
	6H	16.23	17.45	16.75	17.96	18.53	19.63	20.86	20.16	21.37	21.93
	8H	16.33	17.51	16.87	18.04	18.61	20.15	21.32	20.68	21.85	22.42
	12H	16.40	17.52	16.94	18.05	18.65	20.70	21.83	21.24	22.35	22.95
4H	2H	14.48	15.80	14.99	16.29	16.84	15.71	17.02	16.22	17.52	18.07
	3H	16.37	17.49	16.89	18.02	18.60	18.24	19.36	18.76	19.90	20.47
	4H	17.08	18.10	17.62	18.65	19.26	19.46	20.49	20.01	21.04	21.64
	6H	17.59	18.50	18.16	19.07	19.69	20.69	21.59	21.25	22.16	22.78
	8H	17.75	18.60	18.32	19.17	19.80	21.30	22.15	21.87	22.72	23.35
	12H	17.85	18.63	18.44	19.22	19.86	21.96	22.73	22.55	23.33	23.97
8H	4H	17.66	18.51	18.23	19.08	19.71	19.72	20.57	20.29	21.14	21.77
	6H	18.35	19.07	18.95	19.68	20.32	21.10	21.82	21.70	22.44	23.07
	8H	18.60	19.25	19.22	19.88	20.53	21.84	22.49	22.46	23.11	23.76
	12H	18.79	19.37	19.41	19.98	20.70	22.67	23.25	23.28	23.86	24.57
12H	4H	17.80	18.57	18.39	19.17	19.80	19.74	20.51	20.33	21.11	21.74
	6H	18.57	19.21	19.18	19.84	20.49	21.15	21.80	21.77	22.43	23.08
	8H	18.90	19.48	19.52	20.09	20.81	21.96	22.54	22.57	23.15	23.87