

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: P243552

Luminaire Tested: S124DRP-H350D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

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

Summary

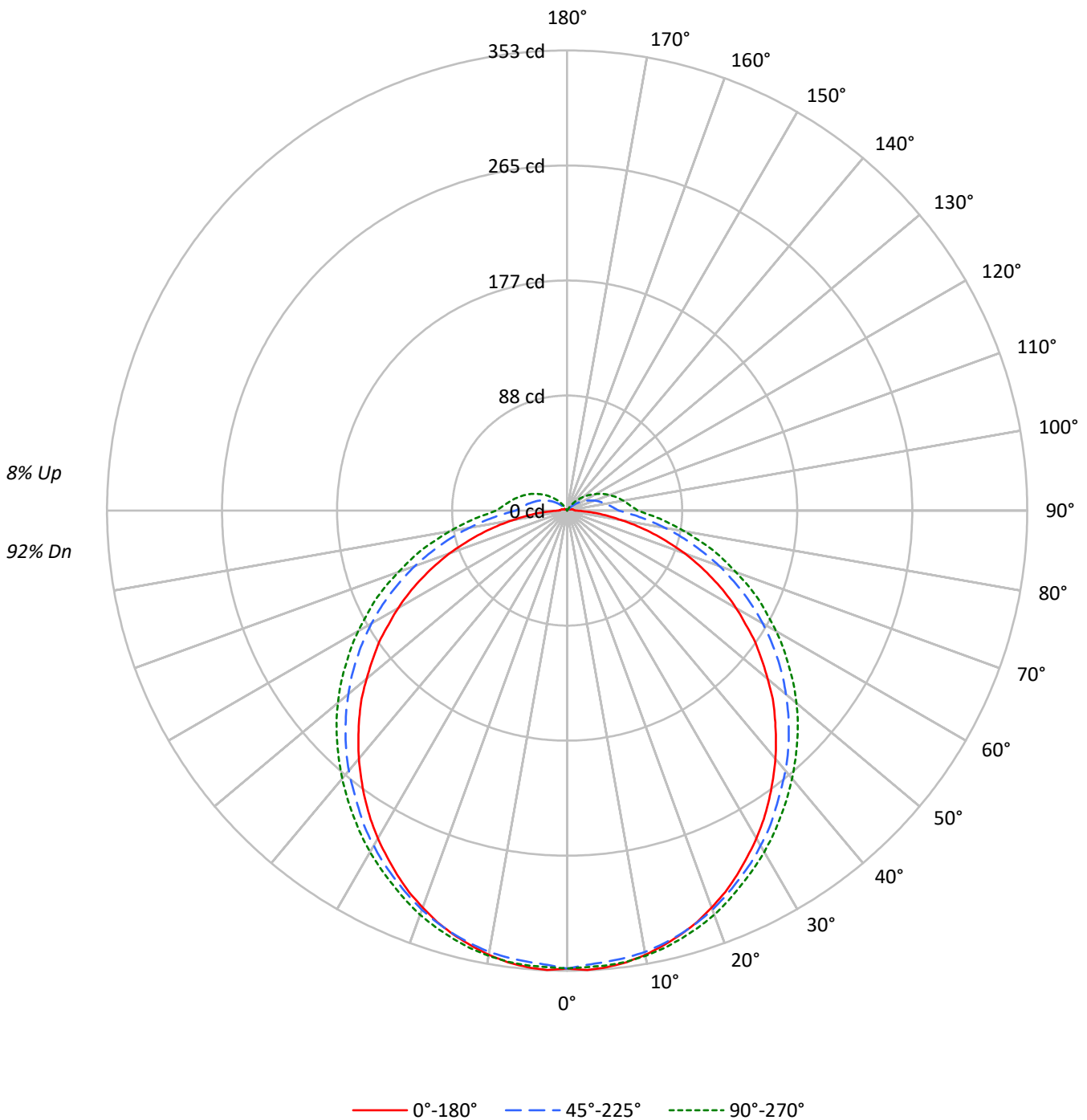
Lumens per Lamp: N/A
Luminaire Lumens: 1200.8 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{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°	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

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2775 cd/sqm



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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



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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	13.74	15.27	14.22	15.74	16.23	15.33	16.85	15.80	17.32	17.81
	3H	15.39	16.78	15.88	17.26	17.80	17.64	19.03	18.13	19.50	20.04
	4H	15.97	17.28	16.48	17.78	18.33	18.71	20.03	19.22	20.52	21.07
	6H	16.35	17.57	16.87	18.08	18.65	19.76	20.98	20.28	21.49	22.05
	8H	16.46	17.63	16.99	18.16	18.73	20.27	21.44	20.81	21.97	22.55
	12H	16.52	17.64	17.06	18.17	18.77	20.82	21.95	21.36	22.47	23.07
4H	2H	14.60	15.92	15.11	16.41	16.96	15.83	17.15	16.34	17.64	18.19
	3H	16.49	17.61	17.01	18.15	18.72	18.36	19.48	18.88	20.02	20.59
	4H	17.20	18.23	17.74	18.77	19.38	19.59	20.61	20.13	21.16	21.76
	6H	17.72	18.62	18.28	19.19	19.81	20.81	21.71	21.37	22.29	22.91
	8H	17.87	18.72	18.44	19.29	19.93	21.42	22.27	21.99	22.84	23.47
	12H	17.98	18.75	18.57	19.35	19.98	22.08	22.85	22.67	23.45	24.09
8H	4H	17.78	18.63	18.35	19.20	19.84	19.84	20.69	20.41	21.26	21.89
	6H	18.48	19.19	19.08	19.81	20.45	21.23	21.94	21.83	22.56	23.20
	8H	18.73	19.37	19.34	20.00	20.65	21.96	22.61	22.58	23.23	23.88
	12H	18.91	19.49	19.53	20.10	20.82	22.79	23.37	23.40	23.98	24.70
12H	4H	17.92	18.69	18.51	19.29	19.92	19.86	20.63	20.45	21.23	21.87
	6H	18.69	19.34	19.30	19.96	20.61	21.27	21.92	21.89	22.55	23.20
	8H	19.03	19.60	19.64	20.21	20.93	22.08	22.66	22.70	23.27	23.99