

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: P242663

Luminaire Tested: S124DRP-S350D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242663
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S350D927-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

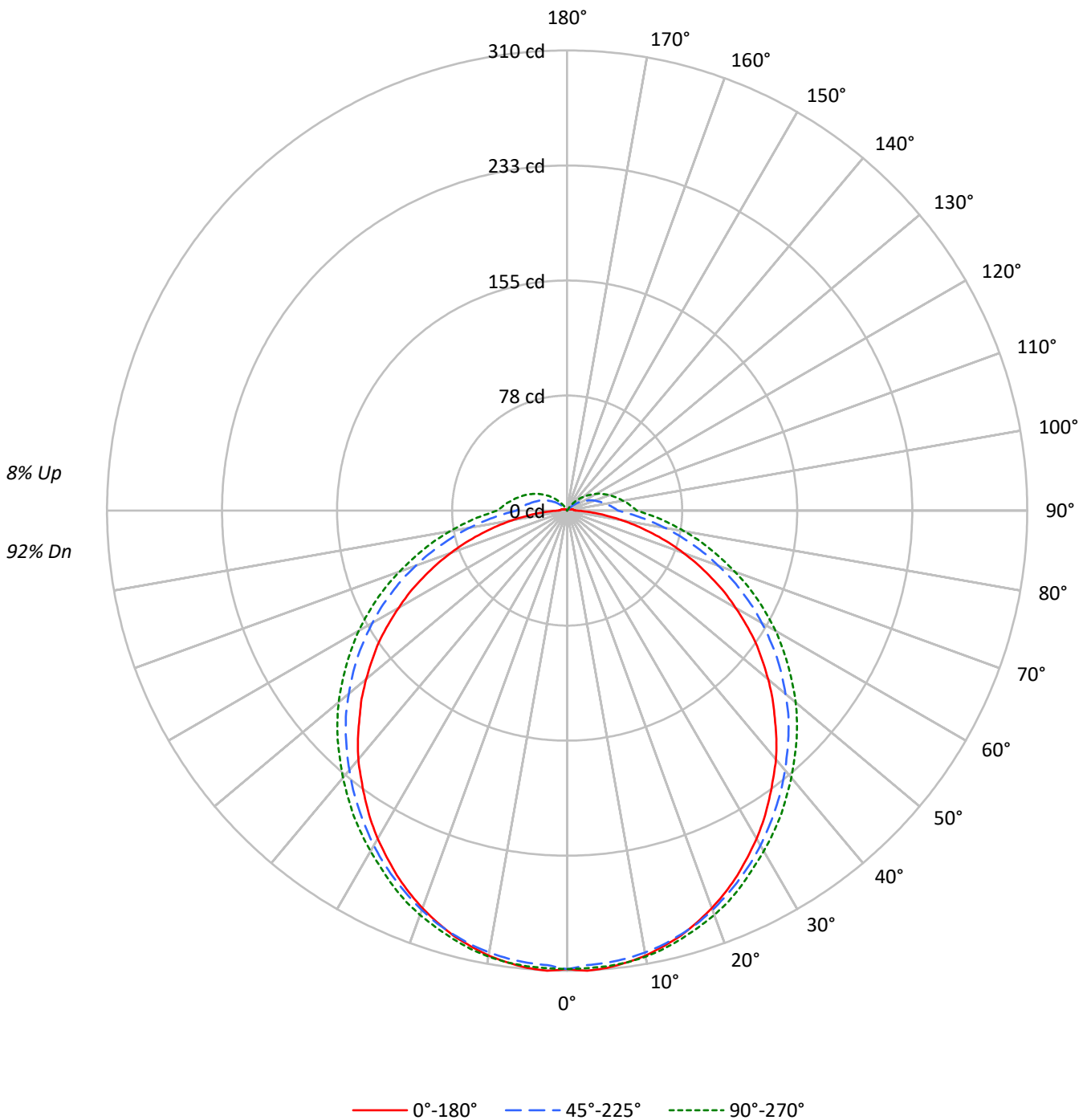
Lumens per Lamp: N/A
Luminaire Lumens: 1053.1 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (Ain): 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	87	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	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2746	2746	2746
5°	2754	2681	2687
10°	2737	2634	2630
15°	2712	2580	2564
20°	2675	2522	2500
25°	2633	2457	2429
30°	2588	2392	2356
35°	2537	2326	2293
40°	2495	2262	2227
45°	2434	2203	2169
50°	2382	2136	2109
55°	2331	2072	2038
60°	2247	1991	1973
65°	2155	1904	1893
70°	2047	1804	1800
75°	1892	1693	1714
80°	1720	1586	1628
85°	1498	1483	1570

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2434 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.3	2.8
10°-20°	83.9	8.0
20°-30°	126.8	12.0
30°-40°	153.4	14.6
40°-50°	162.2	15.4
50°-60°	152.6	14.5
60°-70°	126.6	12.0
70°-80°	88.9	8.4
80°-90°	50.1	4.8
90°-100°	29.8	2.8
100°-110°	22.1	2.1
110°-120°	14.8	1.4
120°-130°	8.4	0.8
130°-140°	3.6	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°	239.9	22.8
0°-40°	393.3	37.3
0°-60°	708.1	67.2
0°-90°	973.7	92.5
90°-120°	66.8	6.3
90°-150°	79.4	7.5
90°-180°	79.0	7.5
0°-180°	1053.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	309	309	309	309	309	
5°	309	308	306	308	308	29
15°	296	297	296	299	298	84
25°	271	273	274	278	278	125
35°	237	241	245	250	251	149
45°	198	204	211	217	219	153
55°	155	162	173	180	182	138
65°	107	118	130	139	142	106
75°	60	72	87	96	100	63
85°	18	33	48	59	62	19
90°	6	19	34	44	47	4
95°	4	16	30	39	42	4
105°	3	10	23	32	34	4
115°	2	5	16	24	26	2
125°	1	1	10	16	18	1
135°	1	1	3	9	11	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°	308.9	308.9	308.9	308.9	308.9
2.5°	310.3	309.2	306.5	308.9	308.5
5°	309.2	308.2	305.8	308.5	308.2
7.5°	307.1	306.5	304.4	307.5	307.1
10°	304.4	304.0	302.3	305.4	305.1
12.5°	300.6	300.6	299.5	302.3	302.3
15°	296.4	296.8	295.7	298.8	298.5
17.5°	290.9	291.9	291.6	294.7	294.3
20°	285.0	286.0	286.4	289.9	289.9
22.5°	278.4	279.8	280.5	284.0	284.7
25°	271.2	273.2	274.3	278.1	278.4
27.5°	263.2	266.3	267.7	271.2	271.5
30°	255.3	258.0	260.5	264.3	264.9
32.5°	246.6	250.1	252.8	257.3	258.0
35°	237.3	241.4	244.9	249.7	250.8
37.5°	227.9	232.8	236.9	241.8	242.8
40°	218.9	223.4	228.3	233.5	234.9
42.5°	208.6	213.8	219.6	225.5	226.6
45°	197.8	204.4	211.0	216.9	218.6
47.5°	187.8	194.4	202.0	207.9	210.0
50°	176.7	184.4	192.0	198.9	201.0
52.5°	165.7	173.3	182.3	189.2	191.3
55°	155.0	162.2	172.6	179.5	181.6
57.5°	142.9	151.8	161.9	170.2	171.9
60°	131.1	140.1	151.5	159.5	162.2
62.5°	119.7	129.7	141.1	149.1	151.8
65°	107.2	118.3	130.1	138.7	141.5
67.5°	95.5	107.2	119.7	128.3	131.1
70°	83.4	95.1	108.3	117.6	120.0
72.5°	71.6	83.7	97.9	106.9	109.6
75°	59.5	72.3	86.8	96.5	99.6
77.5°	48.1	61.6	76.8	86.5	89.9
80°	37.7	51.5	66.8	77.1	79.9
82.5°	27.3	41.9	57.1	67.8	70.9
85°	18.3	32.9	48.4	58.8	62.3
87.5°	11.4	25.6	40.8	50.8	54.0
90°	5.5	19.4	34.2	44.3	47.0
92.5°	5.2	17.3	32.2	41.9	44.6
95°	4.5	15.9	30.1	39.4	42.5
97.5°	4.2	14.2	28.4	37.4	40.5
100°	3.8	12.8	26.3	35.6	38.0
102.5°	3.8	11.4	24.6	33.6	36.3
105°	3.1	10.0	22.8	31.5	34.2
107.5°	3.1	9.0	21.1	29.7	32.2
110°	2.8	7.6	19.7	27.7	30.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	6.6	18.0	25.6	28.4
115°	2.1	5.2	16.3	23.9	26.3
117.5°	2.1	4.2	14.5	21.8	24.6
120°	1.7	2.8	12.8	19.7	22.5
122.5°	1.7	1.7	11.1	18.0	20.4
125°	1.4	1.0	9.7	16.3	18.3
127.5°	1.4	1.0	8.0	14.2	16.6
130°	1.0	0.7	6.2	12.5	14.5
132.5°	1.0	0.7	4.8	10.7	12.8
135°	0.7	0.7	3.1	8.6	10.7
137.5°	0.7	0.3	1.7	6.9	8.6
140°	0.7	0.3	0.7	5.2	6.9
142.5°	0.3	0.3	0.0	3.8	5.2
145°	0.3	0.0	0.0	2.1	3.5
147.5°	0.3	0.0	0.0	0.3	1.7
150°	0.3	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	13.30	14.82	13.78	15.29	15.79	14.85	16.38	15.33	16.84	17.34
	3H	14.94	16.33	15.43	16.80	17.34	17.16	18.55	17.65	19.02	19.56
	4H	15.51	16.82	16.02	17.32	17.87	18.22	19.54	18.73	20.03	20.58
	6H	15.89	17.11	16.41	17.62	18.19	19.27	20.50	19.80	21.00	21.57
	8H	15.99	17.17	16.53	17.70	18.27	19.79	20.96	20.33	21.49	22.07
	12H	16.06	17.18	16.60	17.70	18.31	20.34	21.47	20.89	21.99	22.60
4H	2H	14.15	15.46	14.66	15.96	16.51	15.35	16.67	15.86	17.16	17.71
	3H	16.03	17.15	16.55	17.68	18.26	17.88	19.00	18.41	19.54	20.11
	4H	16.73	17.76	17.28	18.30	18.91	19.10	20.12	19.64	20.67	21.27
	6H	17.25	18.15	17.81	18.73	19.34	20.33	21.23	20.89	21.80	22.42
	8H	17.41	18.26	17.98	18.83	19.46	20.94	21.79	21.51	22.36	22.99
	12H	17.51	18.28	18.10	18.88	19.51	21.60	22.37	22.19	22.97	23.61
8H	4H	17.31	18.16	17.88	18.73	19.37	19.35	20.20	19.92	20.77	21.41
	6H	18.01	18.72	18.61	19.34	19.98	20.75	21.46	21.35	22.08	22.72
	8H	18.26	18.91	18.87	19.53	20.18	21.49	22.13	22.10	22.76	23.41
	12H	18.45	19.02	19.06	19.63	20.35	22.31	22.89	22.93	23.50	24.22
12H	4H	17.45	18.22	18.04	18.82	19.46	19.37	20.14	19.96	20.74	21.38
	6H	18.22	18.87	18.83	19.49	20.14	20.80	21.44	21.41	22.07	22.72
	8H	18.56	19.13	19.17	19.75	20.46	21.60	22.18	22.22	22.79	23.51