

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: P242682

Luminaire Tested: S124DRP-S350D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242682
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-S350D930-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

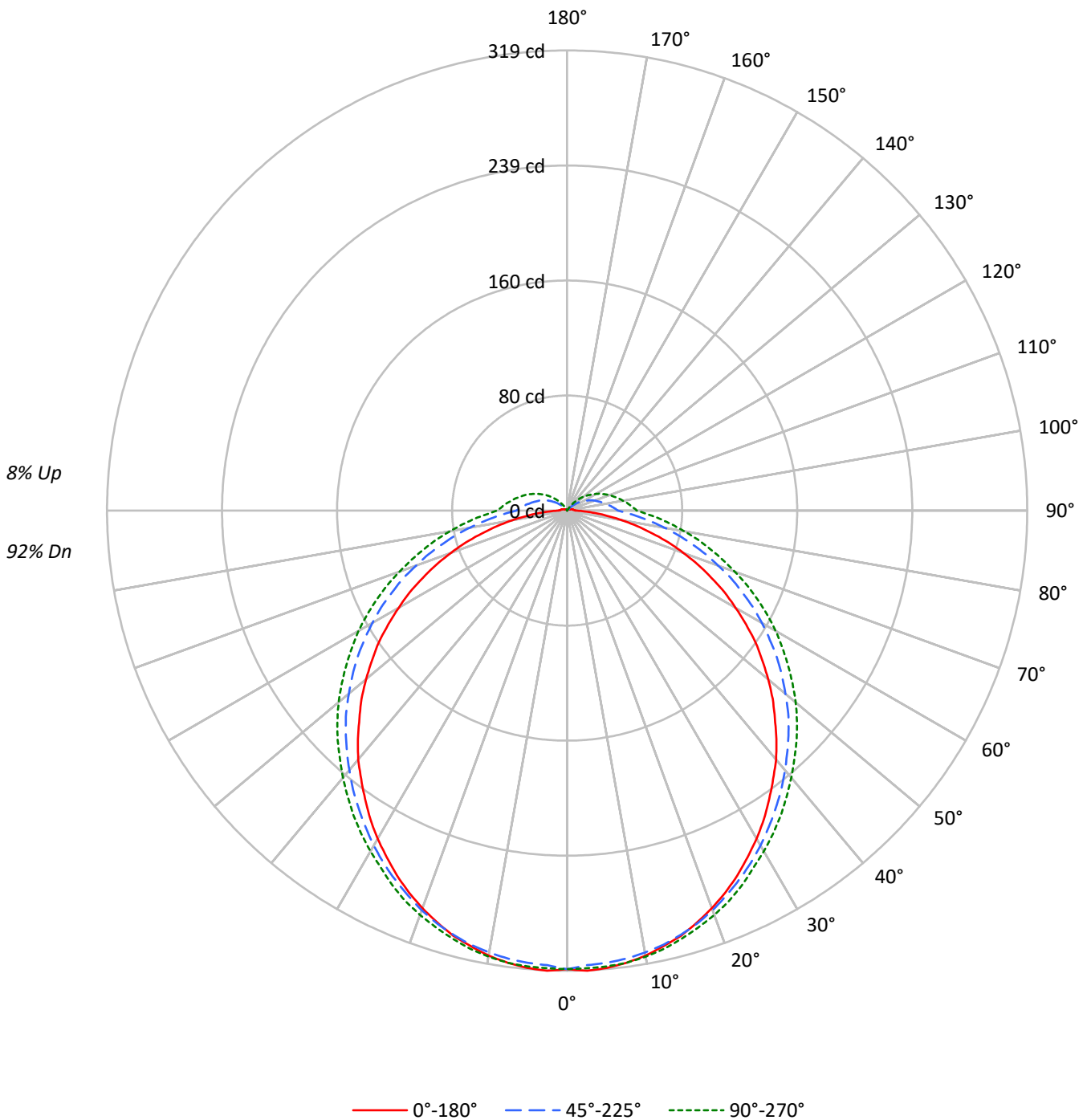
Lumens per Lamp: N/A
Luminaire Lumens: 1083.8 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (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	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°	2826	2826	2826
5°	2834	2759	2766
10°	2817	2711	2707
15°	2792	2656	2638
20°	2753	2596	2572
25°	2710	2529	2500
30°	2663	2462	2426
35°	2611	2393	2360
40°	2568	2328	2292
45°	2506	2267	2233
50°	2453	2199	2170
55°	2398	2132	2098
60°	2312	2049	2031
65°	2220	1958	1948
70°	2105	1856	1852
75°	1946	1744	1764
80°	1770	1631	1675
85°	1547	1526	1615

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.1	2.8
10°-20°	86.3	8.0
20°-30°	130.5	12.0
30°-40°	157.9	14.6
40°-50°	166.9	15.4
50°-60°	157.1	14.5
60°-70°	130.3	12.0
70°-80°	91.5	8.4
80°-90°	51.6	4.8
90°-100°	30.7	2.8
100°-110°	22.7	2.1
110°-120°	15.3	1.4
120°-130°	8.6	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°	246.9	22.8
0°-40°	404.8	37.3
0°-60°	728.7	67.2
0°-90°	1002.1	92.5
90°-120°	68.7	6.3
90°-150°	81.7	7.5
90°-180°	82.0	7.6
0°-180°	1083.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	318	318	318	318	318	
5°	318	317	315	318	317	30
15°	305	305	304	308	307	86
25°	279	281	282	286	287	129
35°	244	248	252	257	258	153
45°	204	210	217	223	225	157
55°	160	167	178	185	187	142
65°	110	122	134	143	146	109
75°	61	74	89	99	102	65
85°	19	34	50	60	64	20
90°	6	20	35	46	48	4
95°	5	16	31	41	44	4
105°	3	10	24	32	35	4
115°	2	5	17	25	27	2
125°	1	1	10	17	19	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°	317.9	317.9	317.9	317.9	317.9
2.5°	319.3	318.2	315.4	317.9	317.5
5°	318.2	317.2	314.7	317.5	317.2
7.5°	316.1	315.4	313.3	316.5	316.1
10°	313.3	312.9	311.1	314.3	314.0
12.5°	309.3	309.3	308.3	311.1	311.1
15°	305.1	305.4	304.4	307.6	307.2
17.5°	299.4	300.4	300.1	303.3	302.9
20°	293.3	294.4	294.8	298.3	298.3
22.5°	286.6	288.0	288.7	292.3	293.0
25°	279.1	281.2	282.3	286.2	286.6
27.5°	270.9	274.1	275.5	279.1	279.4
30°	262.7	265.6	268.1	272.0	272.7
32.5°	253.8	257.4	260.2	264.8	265.6
35°	244.2	248.5	252.0	257.0	258.1
37.5°	234.6	239.6	243.8	248.8	249.9
40°	225.3	230.0	234.9	240.3	241.7
42.5°	214.7	220.0	226.0	232.1	233.2
45°	203.6	210.4	217.1	223.2	225.0
47.5°	193.3	200.1	207.9	213.9	216.1
50°	181.9	189.7	197.6	204.7	206.8
52.5°	170.5	178.3	187.6	194.7	196.9
55°	159.5	167.0	177.6	184.8	186.9
57.5°	147.0	156.3	166.6	175.1	176.9
60°	134.9	144.2	155.9	164.1	167.0
62.5°	123.2	133.5	145.2	153.4	156.3
65°	110.4	121.7	133.8	142.7	145.6
67.5°	98.3	110.4	123.2	132.1	134.9
70°	85.8	97.9	111.4	121.0	123.5
72.5°	73.7	86.1	100.7	110.0	112.8
75°	61.2	74.4	89.4	99.3	102.5
77.5°	49.5	63.4	79.0	89.0	92.6
80°	38.8	53.0	68.7	79.4	82.2
82.5°	28.1	43.1	58.7	69.8	73.0
85°	18.9	33.8	49.8	60.5	64.1
87.5°	11.7	26.3	42.0	52.3	55.5
90°	5.7	19.9	35.2	45.6	48.4
92.5°	5.3	17.8	33.1	43.1	45.9
95°	4.6	16.4	31.0	40.6	43.8
97.5°	4.3	14.6	29.2	38.4	41.6
100°	3.9	13.2	27.1	36.7	39.2
102.5°	3.9	11.7	25.3	34.5	37.4
105°	3.2	10.3	23.5	32.4	35.2
107.5°	3.2	9.3	21.7	30.6	33.1
110°	2.8	7.8	20.3	28.5	31.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	6.8	18.5	26.3	29.2
115°	2.1	5.3	16.7	24.6	27.1
117.5°	2.1	4.3	15.0	22.4	25.3
120°	1.8	2.8	13.2	20.3	23.1
122.5°	1.8	1.8	11.4	18.5	21.0
125°	1.4	1.1	10.0	16.7	18.9
127.5°	1.4	1.1	8.2	14.6	17.1
130°	1.1	0.7	6.4	12.8	15.0
132.5°	1.1	0.7	5.0	11.0	13.2
135°	0.7	0.7	3.2	8.9	11.0
137.5°	0.7	0.4	1.8	7.1	8.9
140°	0.7	0.4	0.7	5.3	7.1
142.5°	0.4	0.4	0.0	3.9	5.3
145°	0.4	0.0	0.0	2.1	3.6
147.5°	0.4	0.0	0.0	0.4	1.8
150°	0.4	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	13.40	14.93	13.88	15.39	15.89	14.95	16.48	15.43	16.94	17.44
	3H	15.04	16.43	15.53	16.91	17.44	17.26	18.65	17.75	19.12	19.66
	4H	15.61	16.92	16.12	17.42	17.97	18.32	19.63	18.83	20.13	20.68
	6H	15.99	17.21	16.51	17.72	18.29	19.37	20.60	19.90	21.10	21.67
	8H	16.10	17.27	16.63	17.80	18.37	19.89	21.06	20.43	21.59	22.17
	12H	16.16	17.28	16.70	17.81	18.41	20.44	21.57	20.99	22.09	22.70
4H	2H	14.25	15.56	14.76	16.06	16.61	15.45	16.77	15.96	17.26	17.81
	3H	16.13	17.25	16.65	17.78	18.36	17.98	19.10	18.50	19.64	20.21
	4H	16.83	17.86	17.38	18.40	19.01	19.20	20.22	19.74	20.77	21.37
	6H	17.35	18.25	17.91	18.83	19.44	20.43	21.33	20.99	21.90	22.52
	8H	17.51	18.36	18.08	18.93	19.56	21.04	21.89	21.61	22.46	23.09
	12H	17.61	18.38	18.20	18.98	19.61	21.70	22.47	22.29	23.07	23.71
8H	4H	17.41	18.26	17.98	18.83	19.47	19.45	20.30	20.02	20.87	21.51
	6H	18.11	18.82	18.71	19.44	20.08	20.85	21.56	21.45	22.18	22.82
	8H	18.36	19.01	18.97	19.63	20.28	21.59	22.23	22.20	22.86	23.51
	12H	18.54	19.12	19.16	19.73	20.45	22.41	22.99	23.03	23.60	24.32
12H	4H	17.55	18.32	18.14	18.92	19.56	19.47	20.24	20.06	20.84	21.48
	6H	18.32	18.97	18.93	19.59	20.24	20.89	21.54	21.51	22.17	22.82
	8H	18.66	19.23	19.27	19.85	20.56	21.70	22.28	22.32	22.89	23.61