

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: P243544

Luminaire Tested: S124DRP-H795D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243544
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-H795D930-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

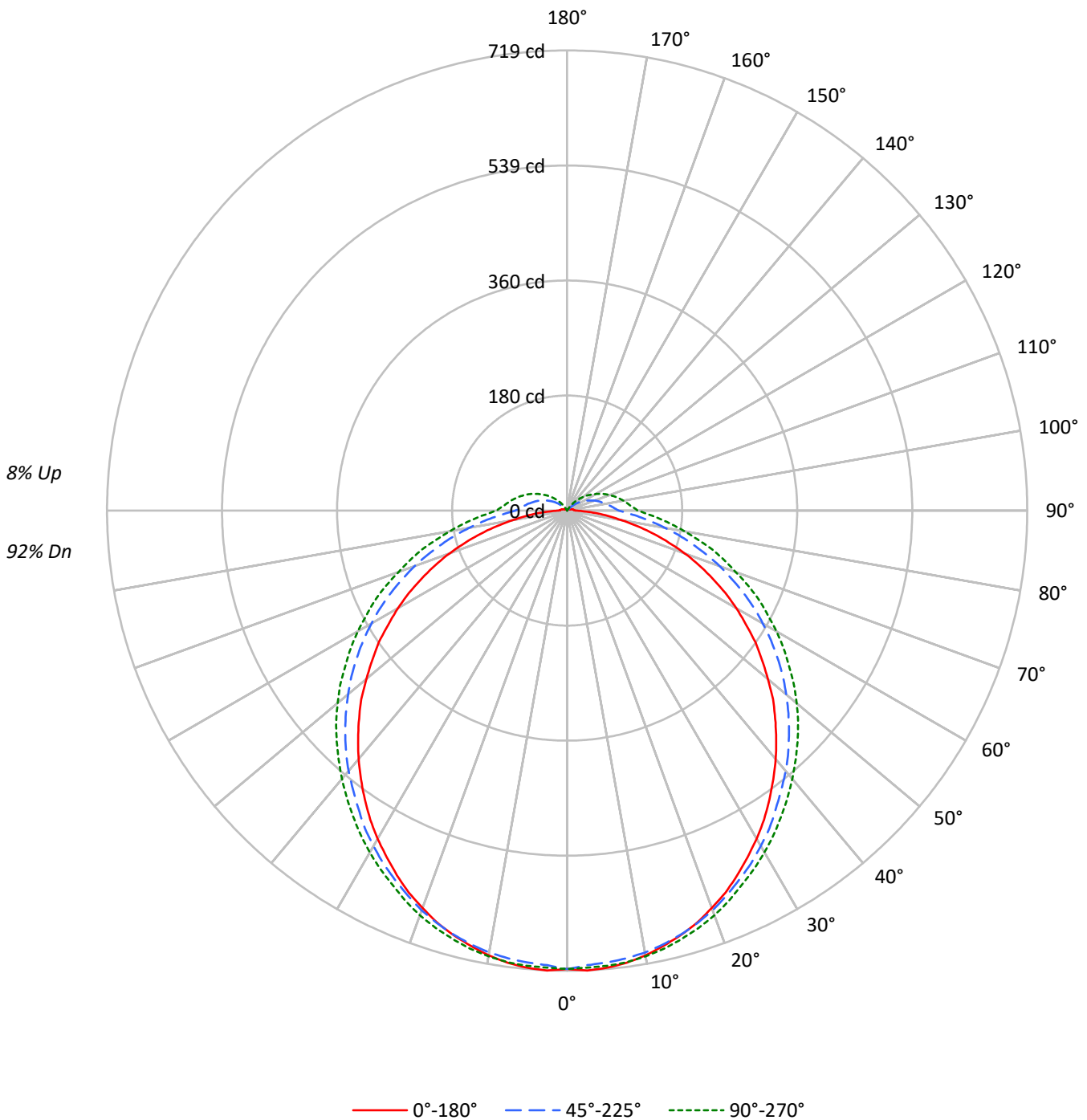
Lumens per Lamp: N/A
Luminaire Lumens: 2448.6 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 23.6
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			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°	6367	6367	6367
5°	6387	6213	6226
10°	6346	6109	6097
15°	6282	5985	5949
20°	6201	5853	5802
25°	6106	5700	5631
30°	6004	5558	5484
35°	5891	5400	5332
40°	5779	5265	5190
45°	5658	5119	5055
50°	5521	4971	4913
55°	5402	4816	4750
60°	5233	4641	4592
65°	5034	4445	4430
70°	4800	4224	4201
75°	4429	3951	4037
80°	3924	3688	3800
85°	3553	3474	3663

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5658 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	2.8
10°-20°	194.5	7.9
20°-30°	294.3	12.0
30°-40°	356.4	14.6
40°-50°	377.0	15.4
50°-60°	355.1	14.5
60°-70°	295.1	12.1
70°-80°	207.4	8.5
80°-90°	116.8	4.8
90°-100°	69.3	2.8
100°-110°	51.3	2.1
110°-120°	34.2	1.4
120°-130°	19.3	0.8
130°-140°	8.3	0.3
140°-150°	1.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	556.6	22.7
0°-40°	913.0	37.3
0°-60°	1645.1	67.2
0°-90°	2264.5	92.5
90°-120°	154.9	6.3
90°-150°	184.1	7.5
90°-180°	184.0	7.5
0°-180°	2448.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	716	716	716	716	716	
5°	717	714	709	715	714	68
15°	687	688	686	694	693	194
25°	629	634	636	646	646	290
35°	551	560	569	581	583	345
45°	460	474	490	505	509	355
55°	359	378	401	419	423	320
65°	250	276	304	323	331	248
75°	139	169	202	225	234	148
85°	43	77	113	138	145	45
90°	13	45	81	103	110	9
95°	11	36	70	92	98	8
105°	8	24	53	73	80	8
115°	5	12	37	55	62	5
125°	3	2	22	37	43	3
135°	2	2	7	20	24	1
145°	1	0	0	5	8	1
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°	716.3	716.3	716.3	716.3	716.3
2.5°	719.4	717.1	711.0	715.6	714.8
5°	717.1	714.0	708.7	714.8	714.0
7.5°	712.5	710.2	705.7	712.5	711.7
10°	705.7	704.1	701.1	707.2	707.2
12.5°	696.5	696.5	694.2	701.1	701.1
15°	686.6	688.2	685.9	693.5	692.7
17.5°	675.2	676.7	676.0	683.6	683.6
20°	660.7	663.0	664.6	672.9	672.9
22.5°	646.3	649.3	650.9	660.0	660.0
25°	628.8	634.1	636.4	645.5	645.5
27.5°	610.5	617.4	621.9	630.3	631.8
30°	592.2	599.8	605.2	614.3	616.6
32.5°	572.4	580.1	588.4	597.6	600.6
35°	551.1	560.3	568.6	580.8	583.1
37.5°	529.1	539.7	549.6	562.5	565.6
40°	507.0	519.9	531.3	543.5	547.3
42.5°	483.4	496.3	511.5	524.5	528.3
45°	459.8	474.2	490.2	504.7	509.3
47.5°	436.2	451.4	468.9	484.1	489.5
50°	409.5	426.3	446.8	462.1	468.2
52.5°	383.7	401.9	424.8	440.0	446.8
55°	359.3	378.3	401.2	418.7	423.2
57.5°	331.1	352.4	377.6	396.6	401.2
60°	305.3	326.6	353.2	372.2	377.6
62.5°	278.6	301.4	328.9	347.9	353.2
65°	250.4	275.6	303.7	322.8	331.1
67.5°	223.0	248.2	277.8	299.2	306.0
70°	195.6	221.5	253.5	274.8	280.1
72.5°	166.7	194.9	227.6	249.7	257.3
75°	139.3	169.0	202.5	225.3	234.5
77.5°	112.7	143.9	178.9	202.5	208.6
80°	86.0	120.3	155.3	178.9	186.5
82.5°	64.7	96.7	133.2	158.3	164.4
85°	43.4	76.9	113.4	137.8	145.4
87.5°	25.9	60.1	95.2	118.0	125.6
90°	12.9	44.9	80.7	102.8	110.4
92.5°	11.4	40.3	74.6	96.7	104.3
95°	10.7	36.5	70.0	92.1	98.2
97.5°	9.9	33.5	65.5	86.8	93.6
100°	9.1	29.7	61.7	82.2	89.1
102.5°	8.4	26.6	57.1	77.6	84.5
105°	7.6	23.6	53.3	73.1	79.9
107.5°	6.9	20.6	49.5	68.5	75.4
110°	6.1	17.5	45.7	63.9	70.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.3	15.2	41.1	59.4	66.2
115°	5.3	12.2	37.3	54.8	61.7
117.5°	4.6	9.1	33.5	50.2	56.3
120°	4.6	6.9	29.7	45.7	51.8
122.5°	3.8	4.6	25.9	41.9	47.2
125°	3.0	2.3	22.1	37.3	42.6
127.5°	3.0	2.3	18.3	32.7	38.1
130°	2.3	2.3	14.5	28.2	33.5
132.5°	2.3	1.5	10.7	24.4	28.9
135°	1.5	1.5	6.9	19.8	24.4
137.5°	1.5	0.8	4.6	16.0	20.6
140°	1.5	0.8	1.5	12.2	16.0
142.5°	0.8	0.8	0.0	8.4	11.4
145°	0.8	0.0	0.0	4.6	7.6
147.5°	0.8	0.0	0.0	0.8	3.8
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	16.22	17.75	16.70	18.21	18.71	17.80	19.33	18.28	19.79	20.29
	3H	17.87	19.26	18.36	19.73	20.27	20.11	21.50	20.60	21.98	22.52
	4H	18.44	19.76	18.95	20.25	20.80	21.18	22.50	21.69	22.99	23.54
	6H	18.82	20.05	19.35	20.56	21.12	22.23	23.46	22.75	23.96	24.53
	8H	18.93	20.11	19.47	20.64	21.21	22.74	23.92	23.28	24.45	25.02
	12H	18.99	20.12	19.54	20.64	21.25	23.30	24.42	23.84	24.95	25.55
4H	2H	17.08	18.39	17.59	18.89	19.44	18.30	19.62	18.81	20.11	20.66
	3H	18.96	20.09	19.49	20.62	21.20	20.84	21.96	21.36	22.49	23.07
	4H	19.68	20.70	20.22	21.25	21.85	22.06	23.09	22.61	23.63	24.24
	6H	20.19	21.10	20.76	21.67	22.29	23.29	24.19	23.85	24.76	25.38
	8H	20.35	21.20	20.92	21.77	22.40	23.89	24.74	24.46	25.32	25.95
	12H	20.45	21.22	21.04	21.82	22.46	24.55	25.33	25.15	25.93	26.56
8H	4H	20.26	21.11	20.83	21.68	22.31	22.32	23.17	22.89	23.74	24.37
	6H	20.95	21.67	21.55	22.28	22.92	23.70	24.42	24.30	25.03	25.67
	8H	21.20	21.85	21.82	22.47	23.12	24.44	25.09	25.05	25.71	26.36
	12H	21.39	21.97	22.01	22.58	23.30	25.27	25.84	25.88	26.45	27.17
12H	4H	20.39	21.16	20.98	21.76	22.40	22.33	23.10	22.92	23.70	24.34
	6H	21.16	21.81	21.78	22.44	23.09	23.75	24.40	24.36	25.02	25.67
	8H	21.50	22.08	22.12	22.69	23.41	24.56	25.13	25.17	25.75	26.46