

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: P243179

Luminaire Tested: S122DRP-H290D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243179
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-H290D927-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

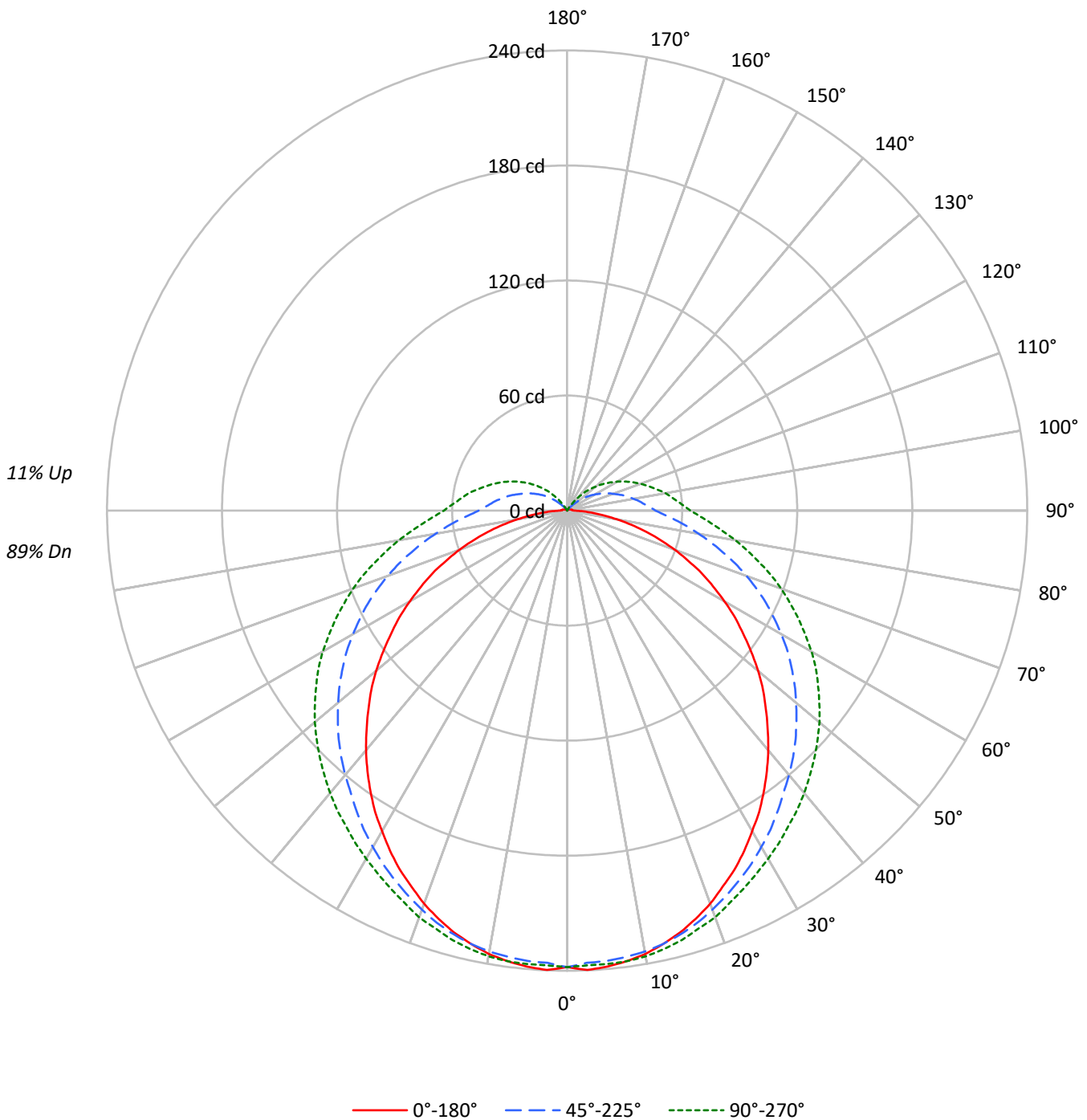
Lumens per Lamp: N/A
Luminaire Lumens: 913.7 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72	69
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41	39
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4535	4535	4535
5°	4557	4349	4323
10°	4524	4205	4149
15°	4466	4056	3964
20°	4389	3895	3789
25°	4299	3737	3611
30°	4193	3588	3466
35°	4096	3441	3338
40°	3986	3313	3232
45°	3866	3198	3127
50°	3756	3081	3029
55°	3612	2968	2922
60°	3482	2847	2818
65°	3343	2722	2694
70°	3139	2575	2572
75°	2916	2416	2432
80°	2591	2260	2307
85°	2263	2139	2185

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3866 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.6	2.5
10°-20°	64.8	7.1
20°-30°	98.2	10.7
30°-40°	119.8	13.1
40°-50°	128.9	14.1
50°-60°	125.3	13.7
60°-70°	109.5	12.0
70°-80°	84.3	9.2
80°-90°	56.7	6.2
90°-100°	39.2	4.3
100°-110°	28.8	3.2
110°-120°	19.2	2.1
120°-130°	10.9	1.2
130°-140°	4.7	0.5
140°-150°	0.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	185.6	20.3
0°-40°	305.3	33.4
0°-60°	559.5	61.2
0°-90°	810.0	88.7
90°-120°	87.3	9.5
90°-150°	103.7	11.3
90°-180°	104.0	11.4
0°-180°	913.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	238	238	238	238	238	
5°	239	238	236	238	237	23
15°	228	229	229	232	232	64
25°	207	210	213	217	218	95
35°	179	185	191	199	201	112
45°	147	156	168	179	182	113
55°	112	125	143	156	160	100
65°	78	94	115	129	133	76
75°	43	62	84	99	104	45
85°	13	34	57	71	75	13
90°	4	24	46	60	64	2
95°	3	19	40	53	57	2
105°	2	12	30	42	46	2
115°	1	6	21	32	36	1
125°	1	1	13	22	25	1
135°	0	0	4	12	15	0
145°	0	0	0	3	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°	238.1	238.1	238.1	238.1	238.1
2.5°	239.8	238.8	236.1	238.1	237.4
5°	238.8	237.8	235.8	237.8	237.4
7.5°	237.1	236.5	234.8	237.4	237.1
10°	234.8	234.5	233.5	236.1	236.1
12.5°	231.5	231.8	231.5	234.5	234.1
15°	227.8	228.8	228.8	231.8	231.8
17.5°	223.2	224.8	225.5	228.8	228.5
20°	218.2	220.2	221.5	225.2	225.8
22.5°	212.2	215.2	217.2	221.2	221.5
25°	206.6	209.9	212.6	217.2	217.6
27.5°	200.0	204.0	207.9	212.6	213.6
30°	193.0	198.0	202.6	208.3	209.6
32.5°	186.4	191.4	197.3	203.3	205.6
35°	178.8	184.7	191.4	198.6	201.0
37.5°	171.1	177.4	185.4	194.0	197.0
40°	163.2	170.5	180.1	189.4	192.3
42.5°	154.9	162.8	174.4	184.1	187.4
45°	146.6	155.5	168.5	178.8	182.4
47.5°	138.6	148.2	162.2	173.8	177.1
50°	130.0	140.6	155.9	167.8	171.8
52.5°	121.0	133.0	149.6	161.8	165.8
55°	112.1	125.4	142.9	155.9	159.8
57.5°	103.8	117.7	136.3	149.2	153.9
60°	94.8	109.8	129.0	142.6	147.2
62.5°	85.9	102.1	121.7	135.6	139.9
65°	77.6	94.2	114.7	128.7	133.0
67.5°	68.3	85.9	107.1	121.7	125.7
70°	59.7	78.3	99.5	114.1	118.7
72.5°	51.1	70.0	91.9	106.5	111.4
75°	42.8	62.3	84.2	99.2	103.5
77.5°	34.2	54.7	76.9	91.9	96.2
80°	26.5	47.1	69.6	84.6	89.2
82.5°	18.9	40.1	63.0	77.6	81.9
85°	12.9	34.2	56.7	71.0	75.3
87.5°	7.6	28.5	50.7	65.0	69.3
90°	3.6	23.9	46.1	60.0	64.3
92.5°	3.0	21.6	42.8	56.4	60.7
95°	2.7	19.2	40.1	53.4	57.4
97.5°	2.7	17.6	37.8	50.7	54.7
100°	2.3	15.6	35.2	47.8	52.1
102.5°	2.3	13.6	32.8	45.1	49.1
105°	2.0	11.9	30.5	42.4	46.1
107.5°	1.7	10.3	27.9	39.8	43.4
110°	1.7	8.6	25.5	37.1	40.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	7.3	23.5	34.5	38.1
115°	1.3	5.6	21.2	31.8	35.5
117.5°	1.3	4.0	18.9	29.2	32.8
120°	1.0	2.7	16.9	26.9	30.2
122.5°	1.0	1.7	14.6	24.2	27.5
125°	1.0	0.7	12.6	21.6	24.9
127.5°	0.7	0.7	10.3	19.2	22.2
130°	0.7	0.3	8.3	16.6	19.6
132.5°	0.7	0.3	6.3	14.3	16.9
135°	0.3	0.3	4.3	11.6	14.6
137.5°	0.3	0.3	2.3	9.3	11.6
140°	0.3	0.0	1.0	7.0	9.0
142.5°	0.3	0.0	0.0	4.6	6.6
145°	0.3	0.0	0.0	2.7	4.0
147.5°	0.0	0.0	0.0	0.7	2.0
150°	0.0	0.0	0.0	0.0	0.3
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	13.47	14.95	14.00	15.48	16.06	16.53	18.01	17.06	18.54	19.12
	3H	14.97	16.32	15.51	16.86	17.48	19.17	20.52	19.71	21.06	21.68
	4H	15.47	16.76	16.03	17.31	17.95	20.45	21.73	21.01	22.28	22.92
	6H	15.79	16.99	16.37	17.56	18.21	21.77	22.97	22.35	23.54	24.19
	8H	15.87	17.02	16.45	17.61	18.26	22.46	23.60	23.04	24.20	24.85
	12H	15.91	17.01	16.50	17.59	18.28	23.21	24.31	23.80	24.90	25.58
4H	2H	14.59	15.87	15.15	16.43	17.06	16.93	18.21	17.49	18.77	19.40
	3H	16.35	17.45	16.92	18.04	18.70	19.77	20.87	20.35	21.47	22.12
	4H	17.00	18.01	17.59	18.61	19.29	21.21	22.22	21.81	22.83	23.51
	6H	17.45	18.34	18.06	18.97	19.67	22.72	23.61	23.33	24.24	24.94
	8H	17.57	18.42	18.19	19.04	19.75	23.50	24.34	24.12	24.97	25.68
	12H	17.65	18.42	18.29	19.07	19.79	24.37	25.13	25.01	25.79	26.50
8H	4H	17.84	18.68	18.45	19.31	20.02	21.41	22.25	22.02	22.88	23.59
	6H	18.50	19.22	19.15	19.88	20.60	23.07	23.78	23.72	24.45	25.17
	8H	18.73	19.38	19.39	20.05	20.78	23.98	24.62	24.64	25.30	26.03
	12H	18.90	19.48	19.56	20.14	20.93	25.01	25.59	25.67	26.25	27.04
12H	4H	18.07	18.83	18.71	19.49	20.20	21.41	22.18	22.05	22.83	23.55
	6H	18.84	19.49	19.50	20.17	20.89	23.10	23.75	23.76	24.43	25.15
	8H	19.18	19.76	19.85	20.43	21.22	24.07	24.65	24.73	25.32	26.11