

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: P242319

Luminaire Tested: S122DRP-S290D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242319
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S290D927-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

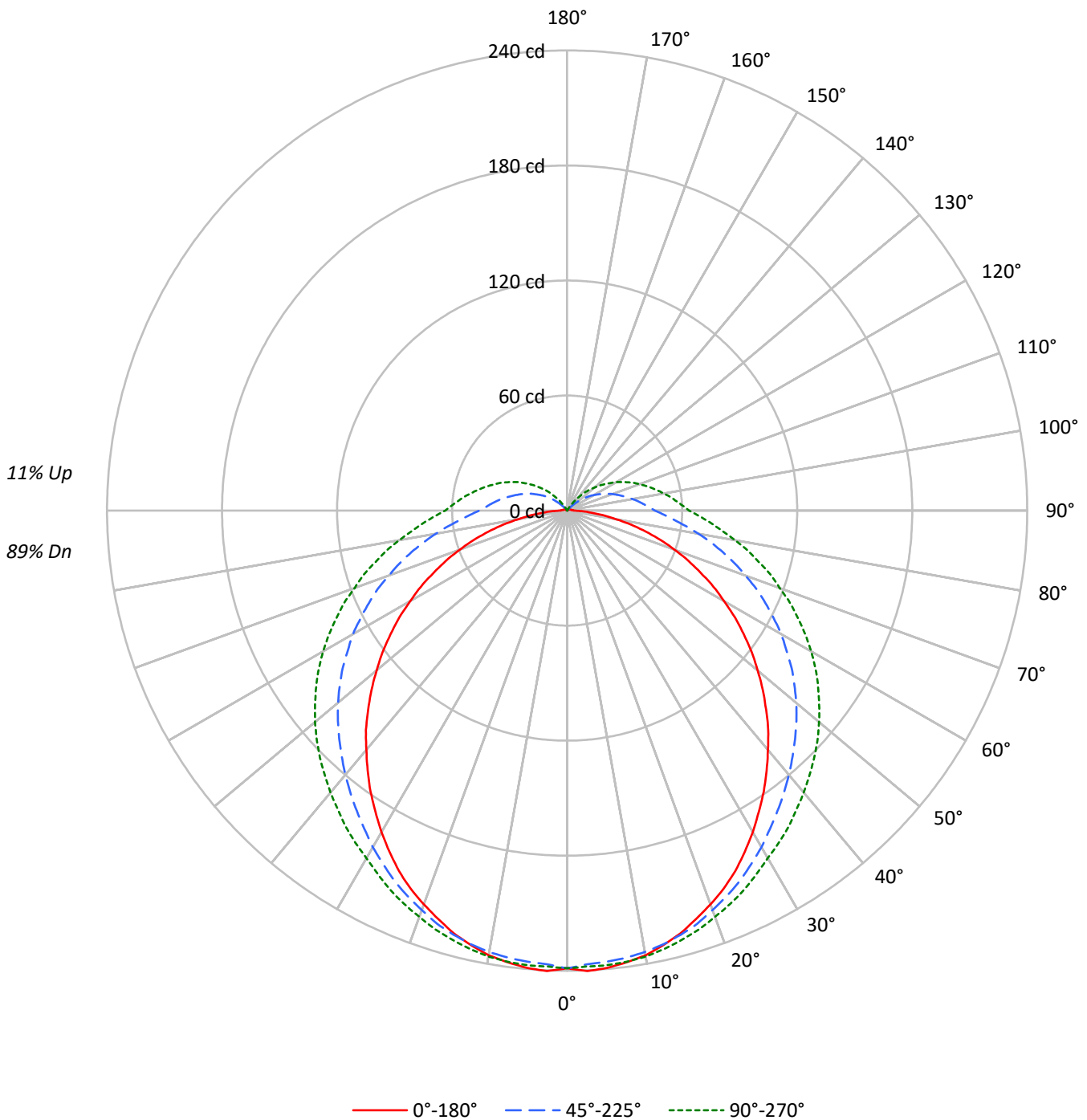
Lumens per Lamp: N/A
Luminaire Lumens: 910.6 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 11.6
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	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	85	81	82	79	77	77	75	72	69
2	94	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	42	39
5	71	57	48	41	68	56	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	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	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°	4547	4547	4547
5°	4569	4356	4334
10°	4538	4211	4150
15°	4476	4060	3962
20°	4397	3899	3784
25°	4318	3746	3623
30°	4208	3589	3461
35°	4096	3439	3343
40°	3979	3309	3227
45°	3869	3191	3125
50°	3747	3083	3025
55°	3621	2968	2922
60°	3467	2847	2814
65°	3309	2708	2690
70°	3129	2560	2555
75°	2895	2413	2429
80°	2532	2257	2300
85°	2193	2113	2188

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3869 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.6	2.5
10°-20°	64.9	7.1
20°-30°	98.3	10.8
30°-40°	119.7	13.1
40°-50°	128.8	14.1
50°-60°	125.1	13.7
60°-70°	109.2	12.0
70°-80°	84.1	9.2
80°-90°	56.3	6.2
90°-100°	38.9	4.3
100°-110°	28.4	3.1
110°-120°	18.7	2.1
120°-130°	10.4	1.1
130°-140°	4.4	0.5
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°	185.8	20.4
0°-40°	305.6	33.6
0°-60°	559.5	61.4
0°-90°	809.2	88.9
90°-120°	86.0	9.4
90°-150°	101.5	11.1
90°-180°	101.0	11.1
0°-180°	910.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	239	239	239	239	239	
5°	239	238	236	238	238	23
15°	228	229	229	232	232	64
25°	208	210	213	217	218	95
35°	179	185	191	199	201	112
45°	147	156	168	179	182	113
55°	112	125	143	155	160	101
65°	77	94	114	128	133	76
75°	42	62	84	99	103	45
85°	12	34	56	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	5	21	31	35	1
125°	1	1	12	21	24	1
135°	0	0	4	11	14	0
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°	238.7	238.7	238.7	238.7	238.7
2.5°	240.4	239.4	236.9	238.7	238.0
5°	239.4	238.3	236.2	238.3	238.0
7.5°	237.6	236.9	235.2	237.6	237.3
10°	235.5	234.9	233.8	236.6	236.2
12.5°	232.1	232.4	231.7	234.5	234.2
15°	228.3	229.0	229.0	232.1	231.7
17.5°	223.4	224.8	225.9	229.0	229.0
20°	218.6	220.3	221.7	225.5	225.5
22.5°	213.4	215.5	217.6	221.4	222.1
25°	207.5	210.0	213.1	217.2	218.3
27.5°	200.6	204.4	207.9	213.1	213.8
30°	193.7	198.2	202.7	208.2	209.3
32.5°	186.1	191.3	196.8	203.4	205.5
35°	178.8	184.7	191.3	198.9	201.3
37.5°	170.9	177.4	185.7	194.0	196.5
40°	162.9	170.5	179.9	188.9	192.0
42.5°	155.3	162.9	174.0	184.0	187.1
45°	146.7	156.0	168.1	178.8	182.3
47.5°	138.4	148.4	162.2	173.3	177.1
50°	129.7	140.4	156.0	167.8	171.6
52.5°	121.4	132.8	149.4	161.5	165.7
55°	112.4	124.9	142.9	155.3	159.8
57.5°	103.8	117.6	135.6	149.1	153.6
60°	94.4	109.3	129.0	142.2	147.0
62.5°	86.1	101.7	121.4	135.6	140.1
65°	76.8	93.7	114.1	128.3	132.8
67.5°	68.5	86.1	106.9	121.1	125.9
70°	59.5	77.5	98.9	113.8	117.9
72.5°	51.2	69.9	91.7	106.2	111.4
75°	42.5	61.9	84.1	98.9	103.4
77.5°	34.2	54.3	76.8	91.7	96.5
80°	25.9	47.0	69.5	84.1	88.9
82.5°	19.0	39.8	62.6	77.1	81.6
85°	12.5	33.9	56.0	70.6	75.4
87.5°	7.6	28.4	50.5	64.7	69.2
90°	3.5	23.5	45.7	59.5	63.6
92.5°	3.1	21.4	42.5	56.0	60.2
95°	2.8	19.0	39.8	52.9	57.1
97.5°	2.4	17.3	37.4	50.2	54.3
100°	2.4	15.2	34.6	47.4	51.2
102.5°	2.1	13.5	32.2	44.6	48.4
105°	1.7	11.8	29.7	41.9	45.7
107.5°	1.7	10.0	27.3	39.1	42.9
110°	1.4	8.3	25.2	36.3	40.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	6.9	22.8	33.9	37.7
115°	1.4	5.2	20.8	31.1	34.9
117.5°	1.0	3.8	18.3	28.7	32.2
120°	1.0	2.4	16.3	25.9	29.7
122.5°	1.0	1.4	14.2	23.5	26.6
125°	0.7	0.7	11.8	21.1	24.2
127.5°	0.7	0.3	9.7	18.3	21.4
130°	0.7	0.3	7.6	15.9	18.7
132.5°	0.7	0.3	5.5	13.5	16.3
135°	0.3	0.3	3.8	11.1	13.8
137.5°	0.3	0.3	2.1	8.6	11.1
140°	0.3	0.0	0.7	6.2	8.3
142.5°	0.3	0.0	0.0	4.2	5.9
145°	0.0	0.0	0.0	2.1	3.8
147.5°	0.0	0.0	0.0	0.3	1.4
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	13.48	14.96	14.01	15.49	16.07	16.54	18.02	17.07	18.55	19.13
	3H	14.98	16.34	15.52	16.87	17.49	19.17	20.53	19.71	21.06	21.68
	4H	15.48	16.77	16.04	17.32	17.95	20.45	21.74	21.01	22.29	22.92
	6H	15.80	16.99	16.37	17.56	18.20	21.78	22.98	22.35	23.55	24.19
	8H	15.87	17.02	16.45	17.61	18.26	22.46	23.61	23.05	24.20	24.85
	12H	15.91	17.01	16.50	17.59	18.27	23.22	24.32	23.81	24.90	25.58
4H	2H	14.59	15.88	15.15	16.43	17.06	16.93	18.22	17.49	18.77	19.40
	3H	16.35	17.45	16.92	18.04	18.69	19.77	20.88	20.35	21.47	22.12
	4H	16.99	18.01	17.58	18.61	19.29	21.22	22.23	21.81	22.83	23.51
	6H	17.44	18.34	18.05	18.96	19.66	22.72	23.62	23.33	24.25	24.94
	8H	17.57	18.41	18.18	19.04	19.74	23.50	24.34	24.12	24.97	25.68
	12H	17.64	18.41	18.28	19.06	19.77	24.37	25.14	25.01	25.79	26.50
8H	4H	17.84	18.68	18.45	19.30	20.01	21.41	22.25	22.03	22.88	23.59
	6H	18.49	19.21	19.14	19.88	20.59	23.07	23.79	23.72	24.46	25.17
	8H	18.73	19.38	19.38	20.05	20.77	23.98	24.62	24.63	25.30	26.02
	12H	18.89	19.47	19.55	20.13	20.92	25.01	25.59	25.67	26.25	27.04
12H	4H	18.07	18.83	18.70	19.48	20.20	21.42	22.18	22.05	22.84	23.55
	6H	18.84	19.49	19.50	20.16	20.88	23.11	23.75	23.76	24.43	25.15
	8H	19.18	19.76	19.84	20.42	21.20	24.07	24.65	24.73	25.31	26.10