

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: P243193

Luminaire Tested: S122DRP-H290D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243193
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-H290D840-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

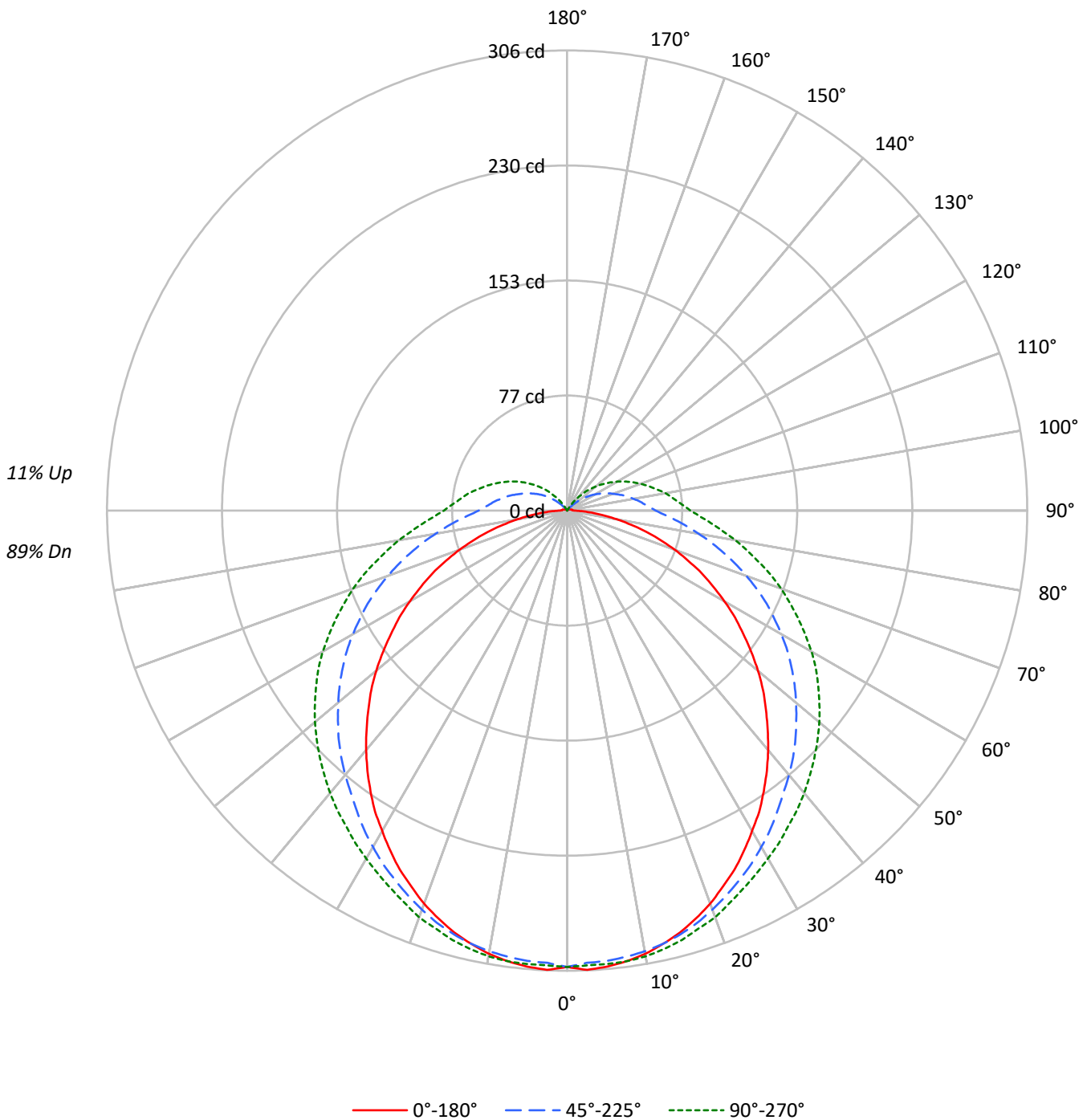
Lumens per Lamp: N/A
Luminaire Lumens: 1164.8 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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

TEST NUMBER: P243193

CATALOG NUMBER: S122DRP-H290D840-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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°	5781	5781	5781
5°	5809	5544	5512
10°	5767	5360	5289
15°	5694	5171	5053
20°	5595	4966	4831
25°	5481	4764	4602
30°	5344	4574	4419
35°	5221	4384	4255
40°	5080	4223	4121
45°	4929	4077	3986
50°	4787	3926	3861
55°	4604	3785	3727
60°	4440	3630	3594
65°	4261	3472	3433
70°	4002	3282	3279
75°	3713	3082	3099
80°	3305	2884	2941
85°	2895	2728	2786

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4929 cd/sqm



TEST NUMBER: P243193

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.8	2.5
10°-20°	82.6	7.1
20°-30°	125.2	10.7
30°-40°	152.7	13.1
40°-50°	164.3	14.1
50°-60°	159.7	13.7
60°-70°	139.6	12.0
70°-80°	107.5	9.2
80°-90°	72.2	6.2
90°-100°	50.0	4.3
100°-110°	36.8	3.2
110°-120°	24.5	2.1
120°-130°	13.8	1.2
130°-140°	5.9	0.5
140°-150°	1.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	236.6	20.3
0°-40°	389.2	33.4
0°-60°	713.3	61.2
0°-90°	1032.7	88.7
90°-120°	111.3	9.6
90°-150°	132.2	11.3
90°-180°	132.0	11.3
0°-180°	1164.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	304	304	304	304	304	
5°	304	303	301	303	303	29
15°	290	292	292	296	296	82
25°	263	268	271	277	277	121
35°	228	236	244	253	256	143
45°	187	198	215	228	232	144
55°	143	160	182	199	204	128
65°	99	120	146	164	170	97
75°	54	80	107	126	132	58
85°	16	44	72	90	96	17
90°	5	30	59	76	82	3
95°	3	24	51	68	73	3
105°	2	15	39	54	59	3
115°	2	7	27	41	45	2
125°	1	1	16	28	32	1
135°	0	0	6	15	19	0
145°	0	0	0	3	5	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



TEST NUMBER: P243193

CATALOG NUMBER: S122DRP-H290D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	303.5	303.5	303.5	303.5	303.5
2.5°	305.7	304.4	301.0	303.5	302.7
5°	304.4	303.1	300.6	303.1	302.7
7.5°	302.3	301.4	299.3	302.7	302.3
10°	299.3	298.9	297.6	301.0	301.0
12.5°	295.1	295.5	295.1	298.9	298.5
15°	290.4	291.7	291.7	295.5	295.5
17.5°	284.5	286.6	287.5	291.7	291.3
20°	278.2	280.7	282.4	287.1	287.9
22.5°	270.6	274.4	276.9	282.0	282.4
25°	263.4	267.6	271.0	276.9	277.3
27.5°	254.9	260.0	265.1	271.0	272.3
30°	246.0	252.4	258.3	265.5	267.2
32.5°	237.6	243.9	251.5	259.2	262.1
35°	227.9	235.5	243.9	253.2	256.2
37.5°	218.1	226.2	236.3	247.3	251.1
40°	208.0	217.3	229.6	241.4	245.2
42.5°	197.4	207.6	222.4	234.6	238.9
45°	186.9	198.3	214.8	227.9	232.5
47.5°	176.7	189.0	206.7	221.5	225.8
50°	165.7	179.3	198.7	213.9	219.0
52.5°	154.3	169.5	190.7	206.3	211.4
55°	142.9	159.8	182.2	198.7	203.8
57.5°	132.3	150.1	173.8	190.2	196.2
60°	120.9	139.9	164.5	181.8	187.7
62.5°	109.5	130.2	155.2	172.9	178.4
65°	98.9	120.1	146.3	164.0	169.5
67.5°	87.1	109.5	136.6	155.2	160.2
70°	76.1	99.8	126.8	145.4	151.3
72.5°	65.1	89.2	117.1	135.7	142.0
75°	54.5	79.5	107.4	126.4	131.9
77.5°	43.5	69.8	98.1	117.1	122.6
80°	33.8	60.0	88.8	107.8	113.7
82.5°	24.1	51.2	80.3	98.9	104.4
85°	16.5	43.5	72.3	90.5	96.0
87.5°	9.7	36.4	64.7	82.9	88.4
90°	4.7	30.4	58.8	76.5	82.0
92.5°	3.8	27.5	54.5	71.9	77.4
95°	3.4	24.5	51.2	68.1	73.1
97.5°	3.4	22.4	48.2	64.7	69.8
100°	3.0	19.9	44.8	60.9	66.4
102.5°	3.0	17.3	41.9	57.5	62.6
105°	2.5	15.2	38.9	54.1	58.8
107.5°	2.1	13.1	35.5	50.7	55.4
110°	2.1	11.0	32.6	47.3	52.0



TEST NUMBER: P243193

CATALOG NUMBER: S122DRP-H290D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	9.3	30.0	44.0	48.6
115°	1.7	7.2	27.1	40.6	45.2
117.5°	1.7	5.1	24.1	37.2	41.9
120°	1.3	3.4	21.6	34.2	38.5
122.5°	1.3	2.1	18.6	30.9	35.1
125°	1.3	0.8	16.1	27.5	31.7
127.5°	0.8	0.8	13.1	24.5	28.3
130°	0.8	0.4	10.6	21.1	24.9
132.5°	0.8	0.4	8.0	18.2	21.6
135°	0.4	0.4	5.5	14.8	18.6
137.5°	0.4	0.4	3.0	11.8	14.8
140°	0.4	0.0	1.3	8.9	11.4
142.5°	0.4	0.0	0.0	5.9	8.5
145°	0.4	0.0	0.0	3.4	5.1
147.5°	0.0	0.0	0.0	0.8	2.5
150°	0.0	0.0	0.0	0.0	0.4
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	14.32	15.79	14.84	16.32	16.91	17.38	18.85	17.90	19.39	19.97
	3H	15.82	17.17	16.36	17.71	18.33	20.01	21.36	20.55	21.90	22.52
	4H	16.32	17.60	16.88	18.16	18.79	21.29	22.57	21.85	23.13	23.76
	6H	16.64	17.83	17.21	18.40	19.05	22.62	23.81	23.19	24.38	25.03
	8H	16.71	17.86	17.30	18.45	19.10	23.30	24.45	23.89	25.04	25.69
	12H	16.75	17.85	17.34	18.44	19.12	24.05	25.15	24.65	25.74	26.42
4H	2H	15.43	16.72	16.00	17.27	17.91	17.77	19.05	18.33	19.61	20.24
	3H	17.19	18.29	17.77	18.89	19.54	20.62	21.71	21.19	22.31	22.96
	4H	17.84	18.85	18.43	19.45	20.14	22.05	23.06	22.65	23.67	24.35
	6H	18.29	19.19	18.90	19.82	20.51	23.56	24.45	24.17	25.08	25.78
	8H	18.42	19.26	19.04	19.89	20.60	24.34	25.18	24.96	25.81	26.52
	12H	18.50	19.26	19.14	19.92	20.63	25.21	25.98	25.85	26.63	27.35
8H	4H	18.68	19.52	19.30	20.15	20.86	22.25	23.09	22.87	23.72	24.43
	6H	19.34	20.06	19.99	20.73	21.44	23.91	24.63	24.56	25.30	26.01
	8H	19.58	20.22	20.24	20.90	21.63	24.82	25.47	25.48	26.14	26.87
	12H	19.74	20.32	20.41	20.99	21.78	25.85	26.43	26.51	27.10	27.89
12H	4H	18.91	19.68	19.55	20.33	21.05	22.25	23.02	22.89	23.68	24.39
	6H	19.69	20.34	20.35	21.01	21.74	23.94	24.59	24.60	25.27	26.00
	8H	20.03	20.61	20.69	21.27	22.06	24.91	25.49	25.58	26.16	26.95