

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: P243209

Luminaire Tested: S122DRP-H485D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243209
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-H485D940-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

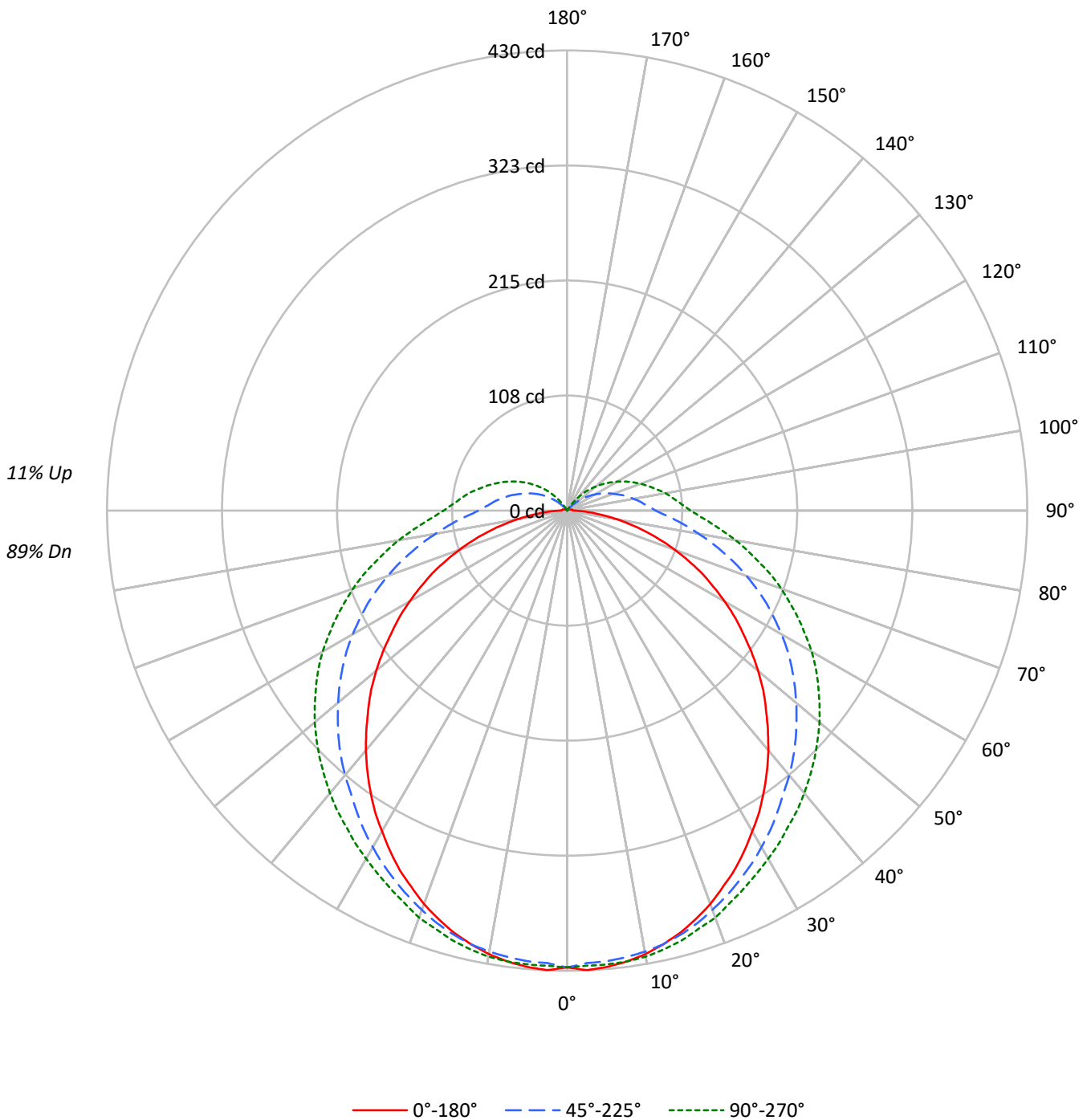
Lumens per Lamp: N/A
Luminaire Lumens: 1637.9 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 17.2
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: P243209

CATALOG NUMBER: S122DRP-H485D940-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243209

CATALOG NUMBER: S122DRP-H485D940-X4F0-XX-UDD-D-W

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°	8130	8130	8130
5°	8168	7796	7752
10°	8110	7537	7438
15°	8007	7272	7106
20°	7868	6984	6793
25°	7707	6700	6472
30°	7517	6432	6213
35°	7340	6166	5984
40°	7144	5938	5795
45°	6930	5732	5606
50°	6732	5521	5428
55°	6473	5322	5239
60°	6244	5105	5055
65°	5993	4882	4828
70°	5627	4614	4611
75°	5225	4333	4358
80°	4654	4053	4136
85°	4070	3837	3915

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6930 cd/sqm



TEST NUMBER: P243209

CATALOG NUMBER: S122DRP-H485D940-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	2.5
10°-20°	116.2	7.1
20°-30°	176.0	10.7
30°-40°	214.7	13.1
40°-50°	231.0	14.1
50°-60°	224.6	13.7
60°-70°	196.4	12.0
70°-80°	151.2	9.2
80°-90°	101.6	6.2
90°-100°	70.3	4.3
100°-110°	51.7	3.2
110°-120°	34.4	2.1
120°-130°	19.5	1.2
130°-140°	8.4	0.5
140°-150°	1.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	332.7	20.3
0°-40°	547.4	33.4
0°-60°	1003.0	61.2
0°-90°	1452.1	88.7
90°-120°	156.4	9.6
90°-150°	185.8	11.3
90°-180°	186.0	11.4
0°-180°	1637.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	428	426	423	426	426	41
15°	408	410	410	416	416	115
25°	370	376	381	389	390	170
35°	320	331	343	356	360	200
45°	263	279	302	320	327	203
55°	201	225	256	279	286	180
65°	139	169	206	231	238	137
75°	77	112	151	178	186	81
85°	23	61	102	127	135	24
90°	6	43	83	108	115	4
95°	5	34	72	96	103	4
105°	4	21	55	76	83	4
115°	2	10	38	57	64	2
125°	2	1	23	39	45	1
135°	1	1	8	21	26	1
145°	1	0	0	5	7	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: P243209

CATALOG NUMBER: S122DRP-H485D940-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	426.8	426.8	426.8	426.8	426.8
2.5°	429.8	428.0	423.3	426.8	425.7
5°	428.0	426.2	422.7	426.2	425.7
7.5°	425.1	423.9	420.9	425.7	425.1
10°	420.9	420.3	418.5	423.3	423.3
12.5°	415.0	415.5	415.0	420.3	419.7
15°	408.4	410.2	410.2	415.5	415.5
17.5°	400.1	403.1	404.3	410.2	409.6
20°	391.2	394.7	397.1	403.7	404.8
22.5°	380.5	385.8	389.4	396.5	397.1
25°	370.4	376.3	381.1	389.4	390.0
27.5°	358.5	365.6	372.7	381.1	382.9
30°	346.0	354.9	363.2	373.3	375.7
32.5°	334.1	343.0	353.7	364.4	368.6
35°	320.4	331.1	343.0	356.1	360.3
37.5°	306.8	318.1	332.3	347.8	353.1
40°	292.5	305.6	322.8	339.5	344.8
42.5°	277.6	291.9	312.7	329.9	335.9
45°	262.8	278.8	302.0	320.4	327.0
47.5°	248.5	265.7	290.7	311.5	317.5
50°	233.0	252.1	279.4	300.8	307.9
52.5°	217.0	238.4	268.1	290.1	297.2
55°	200.9	224.7	256.2	279.4	286.5
57.5°	186.1	211.0	244.3	267.5	275.8
60°	170.0	196.8	231.3	255.6	264.0
62.5°	154.0	183.1	218.2	243.1	250.9
65°	139.1	168.8	205.7	230.7	238.4
67.5°	122.5	154.0	192.0	218.2	225.3
70°	107.0	140.3	178.3	204.5	212.8
72.5°	91.6	125.4	164.7	190.8	199.7
75°	76.7	111.8	151.0	177.8	185.5
77.5°	61.2	98.1	137.9	164.7	172.4
80°	47.6	84.4	124.8	151.6	159.9
82.5°	33.9	71.9	113.0	139.1	146.8
85°	23.2	61.2	101.7	127.2	134.9
87.5°	13.7	51.1	91.0	116.5	124.2
90°	6.5	42.8	82.6	107.6	115.3
92.5°	5.4	38.6	76.7	101.1	108.8
95°	4.8	34.5	71.9	95.7	102.8
97.5°	4.8	31.5	67.8	91.0	98.1
100°	4.2	27.9	63.0	85.6	93.3
102.5°	4.2	24.4	58.9	80.9	88.0
105°	3.6	21.4	54.7	76.1	82.6
107.5°	3.0	18.4	49.9	71.3	77.9
110°	3.0	15.5	45.8	66.6	73.1



TEST NUMBER: P243209

CATALOG NUMBER: S122DRP-H485D940-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	13.1	42.2	61.8	68.4
115°	2.4	10.1	38.0	57.1	63.6
117.5°	2.4	7.1	33.9	52.3	58.9
120°	1.8	4.8	30.3	48.2	54.1
122.5°	1.8	3.0	26.2	43.4	49.3
125°	1.8	1.2	22.6	38.6	44.6
127.5°	1.2	1.2	18.4	34.5	39.8
130°	1.2	0.6	14.9	29.7	35.1
132.5°	1.2	0.6	11.3	25.6	30.3
135°	0.6	0.6	7.7	20.8	26.2
137.5°	0.6	0.6	4.2	16.6	20.8
140°	0.6	0.0	1.8	12.5	16.1
142.5°	0.6	0.0	0.0	8.3	11.9
145°	0.6	0.0	0.0	4.8	7.1
147.5°	0.0	0.0	0.0	1.2	3.6
150°	0.0	0.0	0.0	0.0	0.6
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

TEST NUMBER: P243209

CATALOG NUMBER: S122DRP-H485D940-X4F0-XX-UDD-D-W

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	15.50	16.98	16.03	17.51	18.09	18.56	20.04	19.09	20.57	21.15
	3H	17.00	18.35	17.54	18.89	19.51	21.20	22.55	21.74	23.09	23.71
	4H	17.50	18.79	18.06	19.34	19.97	22.47	23.76	23.03	24.31	24.94
	6H	17.82	19.02	18.39	19.58	20.23	23.80	25.00	24.38	25.57	26.21
	8H	17.90	19.04	18.48	19.63	20.29	24.48	25.63	25.07	26.22	26.88
	12H	17.94	19.04	18.53	19.62	20.31	25.24	26.34	25.83	26.92	27.61
4H	2H	16.62	17.90	17.18	18.46	19.09	18.96	20.24	19.52	20.79	21.43
	3H	18.38	19.47	18.95	20.07	20.73	21.80	22.90	22.37	23.49	24.15
	4H	19.02	20.03	19.62	20.64	21.32	23.24	24.25	23.83	24.85	25.54
	6H	19.48	20.37	20.09	21.00	21.70	24.75	25.64	25.36	26.27	26.96
	8H	19.60	20.44	20.22	21.07	21.78	25.53	26.37	26.14	27.00	27.71
	12H	19.68	20.45	20.32	21.10	21.82	26.39	27.16	27.03	27.81	28.53
8H	4H	19.87	20.71	20.48	21.34	22.05	23.43	24.28	24.05	24.90	25.61
	6H	20.53	21.24	21.18	21.91	22.63	25.10	25.81	25.74	26.48	27.20
	8H	20.76	21.41	21.42	22.08	22.81	26.00	26.65	26.66	27.33	28.05
	12H	20.93	21.51	21.59	22.17	22.96	27.04	27.61	27.70	28.28	29.07
12H	4H	20.10	20.86	20.74	21.52	22.23	23.44	24.21	24.08	24.86	25.58
	6H	20.87	21.52	21.53	22.20	22.92	25.13	25.78	25.79	26.45	27.18
	8H	21.21	21.79	21.87	22.46	23.25	26.10	26.68	26.76	27.34	28.13