

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: P243197

Luminaire Tested: S122DRP-H1005D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243197
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-H1005D840-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

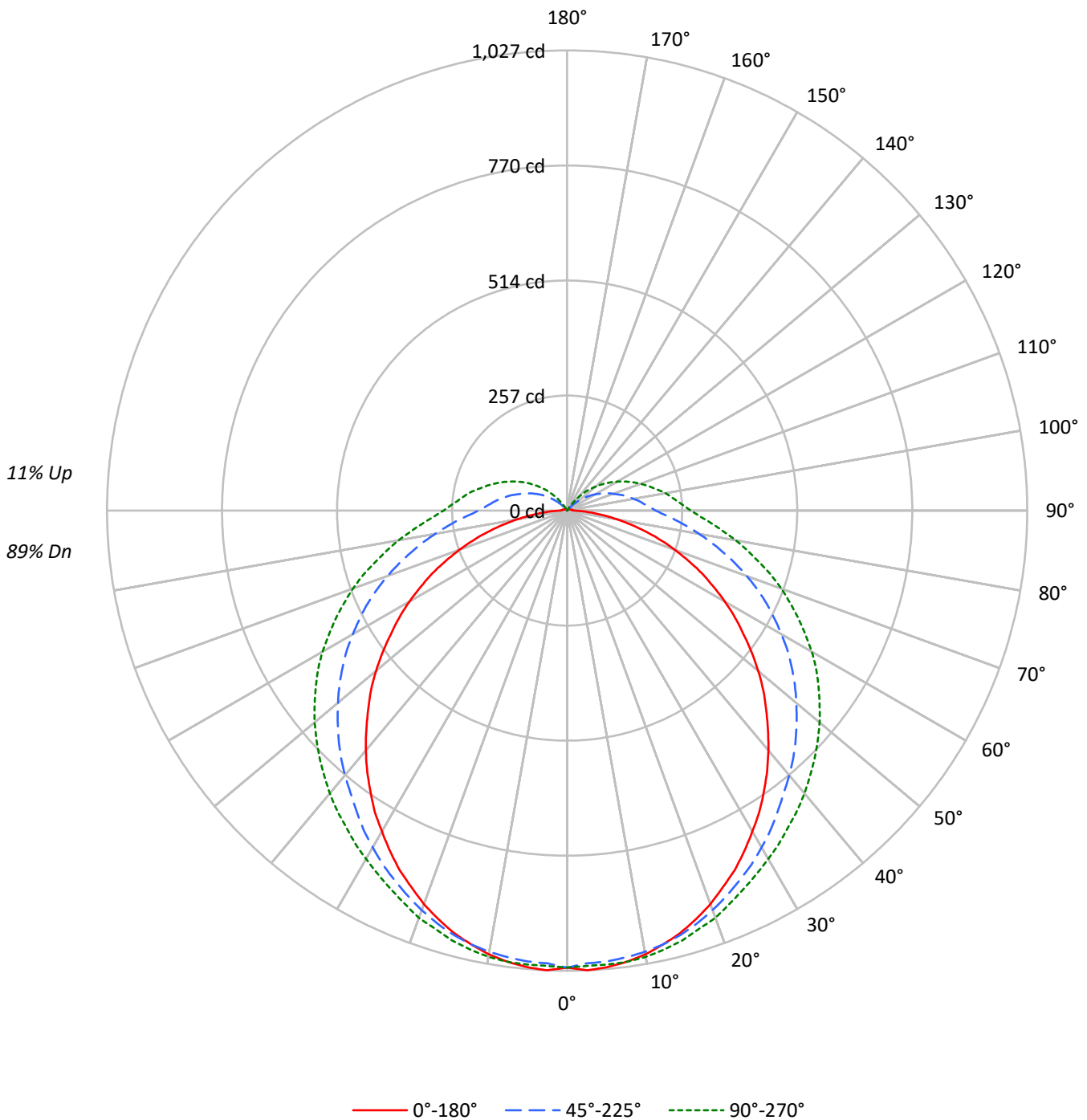
Lumens per Lamp: N/A
Luminaire Lumens: 3913.7 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 37.7
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: P243197

CATALOG NUMBER: S122DRP-H1005D840-X4F0-XX-UDD-D-W

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19427	19427	19427
5°	19520	18628	18522
10°	19378	18010	17771
15°	19134	17375	16980
20°	18799	16688	16233
25°	18415	16007	15463
30°	17960	15369	14848
35°	17538	14733	14296
40°	17070	14187	13847
45°	16558	13696	13393
50°	16087	13192	12971
55°	15468	12716	12521
60°	14922	12196	12076
65°	14321	11665	11536
70°	13446	11028	11019
75°	12481	10353	10412
80°	11106	9687	9884
85°	9719	9165	9359

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16558 cd/sqm



TEST NUMBER: P243197

CATALOG NUMBER: S122DRP-H1005D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.7	2.5
10°-20°	277.6	7.1
20°-30°	420.6	10.7
30°-40°	512.9	13.1
40°-50°	552.0	14.1
50°-60°	536.7	13.7
60°-70°	469.2	12.0
70°-80°	361.2	9.2
80°-90°	242.7	6.2
90°-100°	168.0	4.3
100°-110°	123.5	3.2
110°-120°	82.2	2.1
120°-130°	46.5	1.2
130°-140°	20.0	0.5
140°-150°	3.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	794.9	20.3
0°-40°	1307.9	33.4
0°-60°	2396.6	61.2
0°-90°	3469.7	88.7
90°-120°	373.7	9.5
90°-150°	444.0	11.3
90°-180°	444.0	11.3
0°-180°	3913.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1020	1020	1020	1020	1020	
5°	1023	1018	1010	1018	1017	97
15°	976	980	980	993	993	275
25°	885	899	910	930	932	407
35°	766	791	820	851	861	479
45°	628	666	722	766	781	485
55°	480	537	612	668	685	430
65°	332	403	492	551	570	328
75°	183	267	361	425	443	193
85°	55	146	243	304	322	57
90°	16	102	197	257	276	11
95°	11	82	172	229	246	9
105°	8	51	131	182	197	9
115°	6	24	91	136	152	6
125°	4	3	54	92	106	3
135°	1	1	18	50	62	2
145°	1	0	0	11	17	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



TEST NUMBER: P243197

CATALOG NUMBER: S122DRP-H1005D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1019.9	1019.9	1019.9	1019.9	1019.9
2.5°	1027.0	1022.8	1011.4	1019.9	1017.1
5°	1022.8	1018.5	1010.0	1018.5	1017.1
7.5°	1015.7	1012.8	1005.7	1017.1	1015.7
10°	1005.7	1004.3	1000.0	1011.4	1011.4
12.5°	991.5	992.9	991.5	1004.3	1002.9
15°	975.9	980.1	980.1	992.9	992.9
17.5°	956.0	963.1	965.9	980.1	978.7
20°	934.7	943.2	948.9	964.5	967.4
22.5°	909.1	921.9	930.4	947.5	948.9
25°	885.0	899.2	910.5	930.4	931.8
27.5°	856.6	873.6	890.7	910.5	914.8
30°	826.7	848.0	867.9	892.1	897.8
32.5°	798.3	819.6	845.2	870.8	880.7
35°	765.6	791.2	819.6	850.9	860.8
37.5°	733.0	760.0	794.1	831.0	843.8
40°	698.9	730.1	771.3	811.1	823.9
42.5°	663.4	697.5	747.2	788.4	802.6
45°	627.9	666.2	721.6	765.6	781.3
47.5°	593.8	635.0	694.6	744.3	758.5
50°	556.8	602.3	667.6	718.8	735.8
52.5°	518.5	569.6	640.6	693.2	710.2
55°	480.1	536.9	612.2	667.6	684.7
57.5°	444.6	504.3	583.8	639.2	659.1
60°	406.3	470.2	552.6	610.8	630.7
62.5°	367.9	437.5	521.3	581.0	599.4
65°	332.4	403.4	491.5	551.2	569.6
67.5°	292.6	367.9	458.8	521.3	538.4
70°	255.7	335.2	426.1	488.7	508.5
72.5°	218.8	299.7	393.5	456.0	477.3
75°	183.2	267.1	360.8	424.7	443.2
77.5°	146.3	234.4	329.6	393.5	411.9
80°	113.6	201.7	298.3	362.2	382.1
82.5°	81.0	171.9	269.9	332.4	350.9
85°	55.4	146.3	242.9	304.0	322.5
87.5°	32.7	122.2	217.3	278.4	296.9
90°	15.6	102.3	197.4	257.1	275.6
92.5°	12.8	92.3	183.2	241.5	260.0
95°	11.4	82.4	171.9	228.7	245.7
97.5°	11.4	75.3	161.9	217.3	234.4
100°	9.9	66.8	150.6	204.6	223.0
102.5°	9.9	58.2	140.6	193.2	210.2
105°	8.5	51.1	130.7	181.8	197.4
107.5°	7.1	44.0	119.3	170.5	186.1
110°	7.1	36.9	109.4	159.1	174.7



TEST NUMBER: P243197

CATALOG NUMBER: S122DRP-H1005D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.7	31.3	100.9	147.7	163.4
115°	5.7	24.1	90.9	136.4	152.0
117.5°	5.7	17.0	81.0	125.0	140.6
120°	4.3	11.4	72.4	115.1	129.3
122.5°	4.3	7.1	62.5	103.7	117.9
125°	4.3	2.8	54.0	92.3	106.5
127.5°	2.8	2.8	44.0	82.4	95.2
130°	2.8	1.4	35.5	71.0	83.8
132.5°	2.8	1.4	27.0	61.1	72.4
135°	1.4	1.4	18.5	49.7	62.5
137.5°	1.4	1.4	9.9	39.8	49.7
140°	1.4	0.0	4.3	29.8	38.4
142.5°	1.4	0.0	0.0	19.9	28.4
145°	1.4	0.0	0.0	11.4	17.0
147.5°	0.0	0.0	0.0	2.8	8.5
150°	0.0	0.0	0.0	0.0	1.4
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	18.53	20.00	19.05	20.53	21.12	21.59	23.07	22.12	23.60	24.18
	3H	20.03	21.38	20.57	21.92	22.54	24.22	25.57	24.76	26.11	26.73
	4H	20.53	21.81	21.09	22.37	23.00	25.50	26.78	26.06	27.34	27.97
	6H	20.85	22.04	21.42	22.61	23.26	26.83	28.02	27.40	28.59	29.24
	8H	20.92	22.07	21.51	22.66	23.31	27.51	28.66	28.10	29.25	29.90
	12H	20.96	22.06	21.55	22.65	23.33	28.26	29.36	28.86	29.95	30.63
4H	2H	19.64	20.93	20.21	21.48	22.12	21.98	23.27	22.54	23.82	24.45
	3H	21.40	22.50	21.98	23.10	23.75	24.83	25.93	25.40	26.52	27.18
	4H	22.05	23.06	22.64	23.66	24.35	26.27	27.28	26.86	27.88	28.56
	6H	22.50	23.40	23.12	24.03	24.72	27.77	28.67	28.38	29.29	29.99
	8H	22.63	23.47	23.25	24.10	24.81	28.55	29.39	29.17	30.02	30.73
	12H	22.71	23.47	23.35	24.13	24.84	29.42	30.19	30.06	30.84	31.56
8H	4H	22.89	23.73	23.51	24.36	25.07	26.46	27.30	27.08	27.93	28.64
	6H	23.55	24.27	24.20	24.94	25.65	28.12	28.84	28.77	29.51	30.22
	8H	23.79	24.43	24.45	25.11	25.84	29.03	29.68	29.69	30.35	31.08
	12H	23.95	24.53	24.62	25.20	25.99	30.06	30.64	30.73	31.31	32.10
12H	4H	23.12	23.89	23.76	24.54	25.26	26.47	27.23	27.11	27.89	28.60
	6H	23.90	24.55	24.56	25.22	25.95	28.16	28.80	28.81	29.48	30.21
	8H	24.24	24.82	24.90	25.48	26.27	29.13	29.70	29.79	30.37	31.16