

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: P243199

Luminaire Tested: S122DRP-H485D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243199
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-H485D930-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

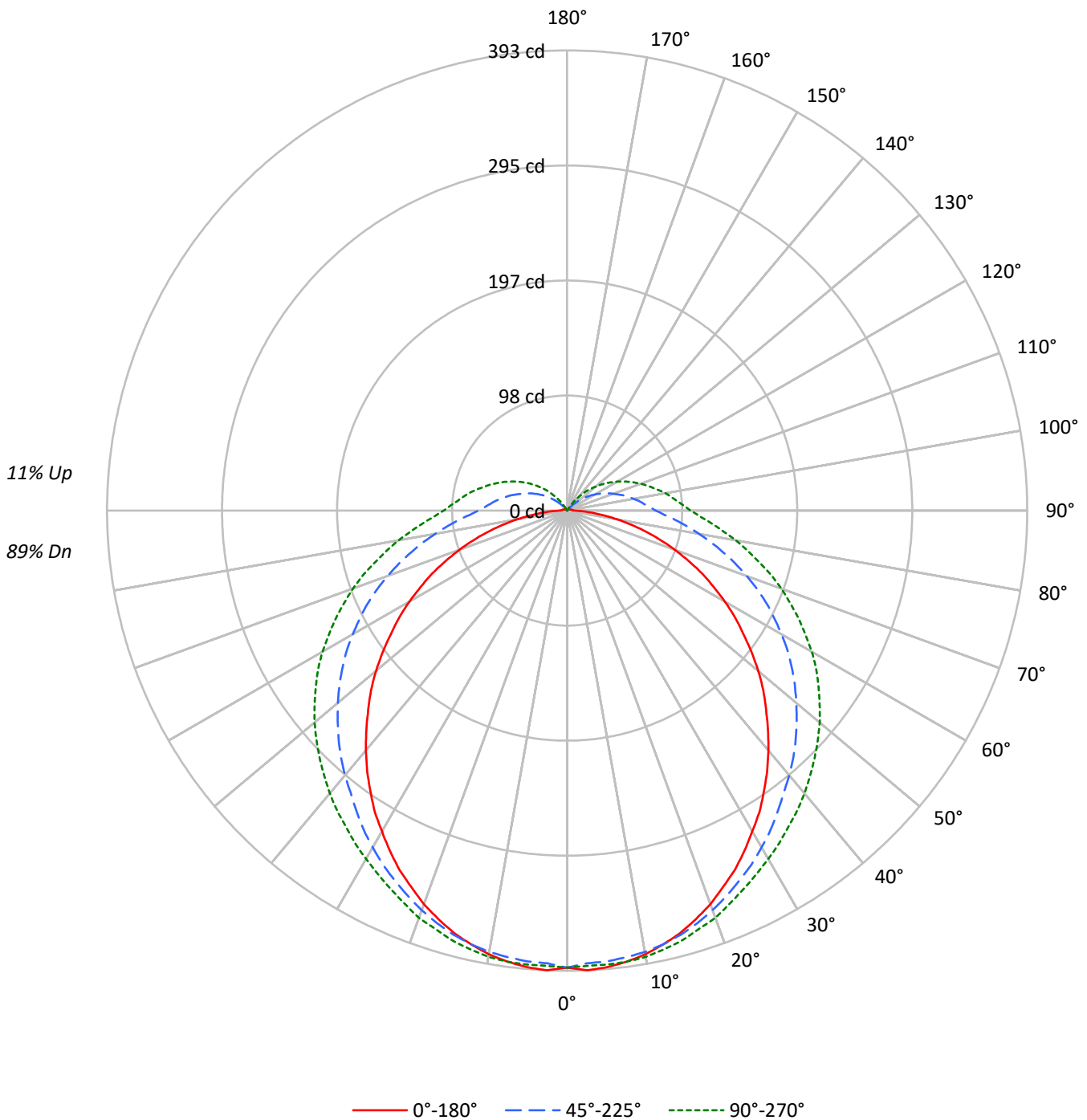
Lumens per Lamp: N/A
Luminaire Lumens: 1497.6 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 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: P243199

CATALOG NUMBER: S122DRP-H485D930-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	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°	7434	7434	7434
5°	7470	7129	7087
10°	7415	6892	6800
15°	7321	6648	6497
20°	7194	6386	6212
25°	7046	6125	5918
30°	6872	5881	5681
35°	6712	5637	5471
40°	6531	5428	5299
45°	6334	5240	5124
50°	6157	5049	4964
55°	5919	4867	4791
60°	5711	4665	4620
65°	5480	4464	4415
70°	5143	4221	4217
75°	4776	3963	3985
80°	4253	3705	3782
85°	3719	3505	3581

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6334 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.0	2.5
10°-20°	106.2	7.1
20°-30°	160.9	10.7
30°-40°	196.3	13.1
40°-50°	211.2	14.1
50°-60°	205.4	13.7
60°-70°	179.5	12.0
70°-80°	138.2	9.2
80°-90°	92.9	6.2
90°-100°	64.3	4.3
100°-110°	47.3	3.2
110°-120°	31.5	2.1
120°-130°	17.8	1.2
130°-140°	7.6	0.5
140°-150°	1.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	304.2	20.3
0°-40°	500.4	33.4
0°-60°	917.1	61.2
0°-90°	1327.7	88.7
90°-120°	143.0	9.5
90°-150°	169.9	11.3
90°-180°	170.0	11.4
0°-180°	1497.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	390	390	390	390	390	
5°	391	390	386	390	389	37
15°	373	375	375	380	380	105
25°	339	344	348	356	357	156
35°	293	303	314	326	329	183
45°	240	255	276	293	299	186
55°	184	206	234	256	262	165
65°	127	154	188	211	218	125
75°	70	102	138	162	170	74
85°	21	56	93	116	123	22
90°	6	39	76	98	105	4
95°	4	32	66	88	94	4
105°	3	20	50	70	76	3
115°	2	9	35	52	58	2
125°	2	1	21	35	41	1
135°	0	0	7	19	24	1
145°	0	0	0	4	6	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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CATALOG NUMBER: S122DRP-H485D930-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	390.3	390.3	390.3	390.3	390.3
2.5°	393.0	391.4	387.0	390.3	389.2
5°	391.4	389.7	386.5	389.7	389.2
7.5°	388.6	387.5	384.8	389.2	388.6
10°	384.8	384.3	382.7	387.0	387.0
12.5°	379.4	379.9	379.4	384.3	383.7
15°	373.4	375.0	375.0	379.9	379.9
17.5°	365.8	368.5	369.6	375.0	374.5
20°	357.7	360.9	363.1	369.1	370.2
22.5°	347.9	352.8	356.0	362.5	363.1
25°	338.6	344.1	348.4	356.0	356.6
27.5°	327.8	334.3	340.8	348.4	350.0
30°	316.3	324.5	332.1	341.3	343.5
32.5°	305.5	313.6	323.4	333.2	337.0
35°	293.0	302.8	313.6	325.6	329.4
37.5°	280.5	290.8	303.8	318.0	322.9
40°	267.4	279.4	295.1	310.4	315.3
42.5°	253.8	266.9	285.9	301.7	307.1
45°	240.2	254.9	276.1	293.0	298.9
47.5°	227.2	243.0	265.8	284.8	290.3
50°	213.1	230.5	255.5	275.0	281.6
52.5°	198.4	218.0	245.1	265.3	271.8
55°	183.7	205.5	234.3	255.5	262.0
57.5°	170.1	193.0	223.4	244.6	252.2
60°	155.5	179.9	211.4	233.7	241.3
62.5°	140.8	167.4	199.5	222.3	229.4
65°	127.2	154.4	188.1	210.9	218.0
67.5°	112.0	140.8	175.6	199.5	206.0
70°	97.8	128.3	163.1	187.0	194.6
72.5°	83.7	114.7	150.6	174.5	182.6
75°	70.1	102.2	138.1	162.5	169.6
77.5°	56.0	89.7	126.1	150.6	157.6
80°	43.5	77.2	114.1	138.6	146.2
82.5°	31.0	65.8	103.3	127.2	134.3
85°	21.2	56.0	92.9	116.3	123.4
87.5°	12.5	46.7	83.2	106.5	113.6
90°	6.0	39.1	75.6	98.4	105.4
92.5°	4.9	35.3	70.1	92.4	99.5
95°	4.3	31.5	65.8	87.5	94.0
97.5°	4.3	28.8	62.0	83.2	89.7
100°	3.8	25.5	57.6	78.3	85.3
102.5°	3.8	22.3	53.8	73.9	80.4
105°	3.3	19.6	50.0	69.6	75.6
107.5°	2.7	16.8	45.7	65.2	71.2
110°	2.7	14.1	41.9	60.9	66.9



TEST NUMBER: P243199

CATALOG NUMBER: S122DRP-H485D930-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.2	12.0	38.6	56.5	62.5
115°	2.2	9.2	34.8	52.2	58.2
117.5°	2.2	6.5	31.0	47.8	53.8
120°	1.6	4.3	27.7	44.0	49.5
122.5°	1.6	2.7	23.9	39.7	45.1
125°	1.6	1.1	20.7	35.3	40.8
127.5°	1.1	1.1	16.8	31.5	36.4
130°	1.1	0.5	13.6	27.2	32.1
132.5°	1.1	0.5	10.3	23.4	27.7
135°	0.5	0.5	7.1	19.0	23.9
137.5°	0.5	0.5	3.8	15.2	19.0
140°	0.5	0.0	1.6	11.4	14.7
142.5°	0.5	0.0	0.0	7.6	10.9
145°	0.5	0.0	0.0	4.3	6.5
147.5°	0.0	0.0	0.0	1.1	3.3
150°	0.0	0.0	0.0	0.0	0.5
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	15.19	16.67	15.72	17.20	17.78	18.25	19.73	18.78	20.26	20.84
	3H	16.69	18.04	17.23	18.58	19.20	20.88	22.24	21.43	22.78	23.40
	4H	17.19	18.47	17.75	19.03	19.66	22.16	23.45	22.72	24.00	24.63
	6H	17.51	18.71	18.08	19.27	19.92	23.49	24.69	24.06	25.25	25.90
	8H	17.59	18.73	18.17	19.32	19.98	24.17	25.32	24.76	25.91	26.57
	12H	17.63	18.73	18.22	19.31	20.00	24.93	26.03	25.52	26.61	27.30
4H	2H	16.31	17.59	16.87	18.15	18.78	18.64	19.93	19.21	20.48	21.12
	3H	18.07	19.16	18.64	19.76	20.42	21.49	22.59	22.06	23.18	23.84
	4H	18.71	19.72	19.31	20.33	21.01	22.93	23.94	23.52	24.54	25.23
	6H	19.17	20.06	19.78	20.69	21.39	24.43	25.33	25.05	25.96	26.65
	8H	19.29	20.13	19.91	20.76	21.47	25.22	26.06	25.83	26.69	27.40
	12H	19.37	20.14	20.01	20.79	21.51	26.08	26.85	26.72	27.50	28.22
8H	4H	19.55	20.40	20.17	21.02	21.73	23.12	23.96	23.74	24.59	25.30
	6H	20.22	20.93	20.87	21.60	22.32	24.78	25.50	25.43	26.17	26.88
	8H	20.45	21.10	21.11	21.77	22.50	25.69	26.34	26.35	27.02	27.74
	12H	20.62	21.20	21.28	21.86	22.65	26.72	27.30	27.39	27.97	28.76
12H	4H	19.79	20.55	20.42	21.21	21.92	23.13	23.89	23.77	24.55	25.27
	6H	20.56	21.21	21.22	21.89	22.61	24.82	25.47	25.48	26.14	26.87
	8H	20.90	21.48	21.56	22.15	22.94	25.79	26.37	26.45	27.03	27.82