

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: P243194

Luminaire Tested: S122DRP-H485D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243194
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-H485D840-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

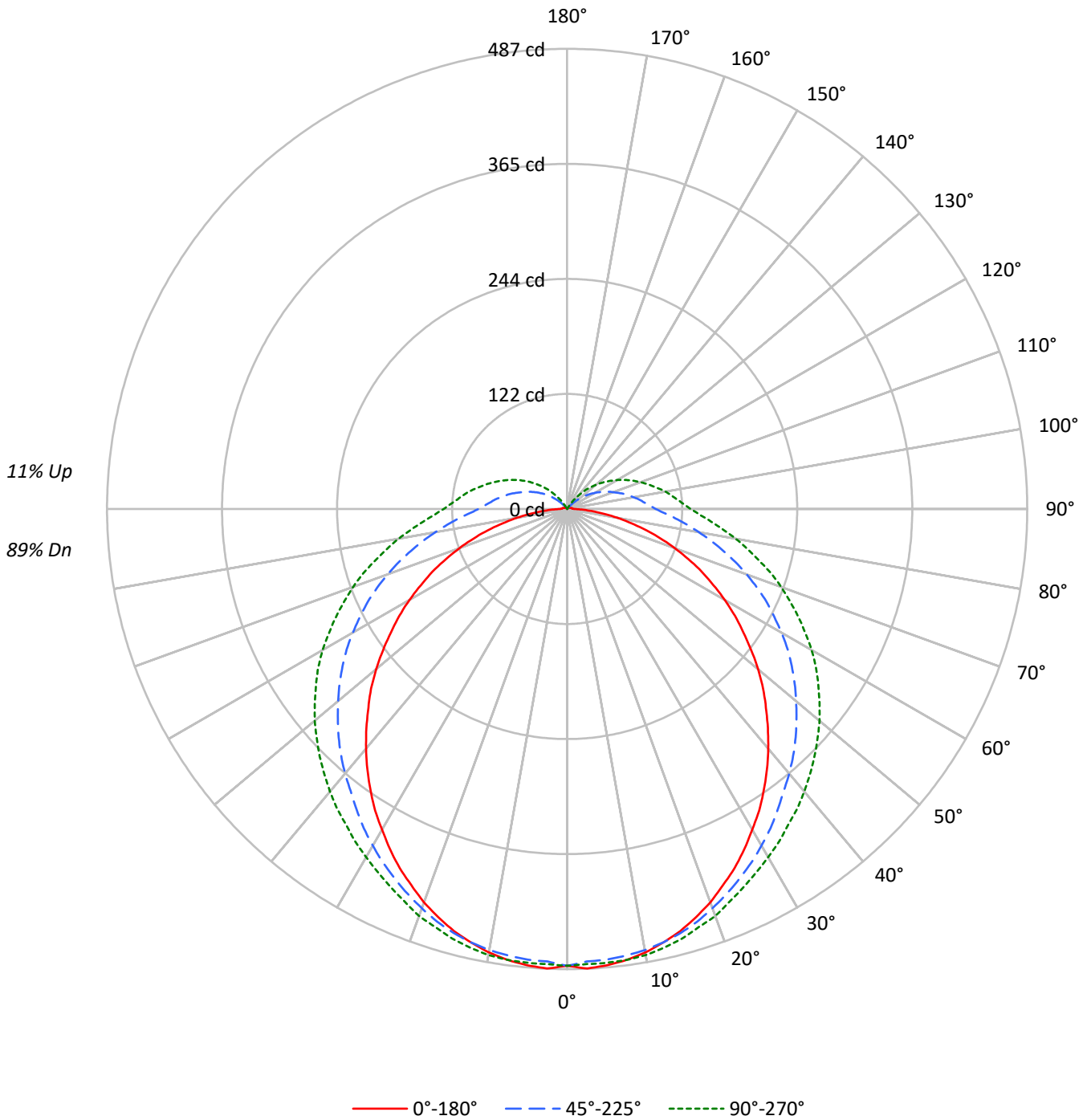
Lumens per Lamp: N/A
Luminaire Lumens: 1855.0 lumens
Efficiency: N/A
Efficacy: 107.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 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: P243194

CATALOG NUMBER: S122DRP-H485D840-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°	9208	9208	9208
5°	9250	8829	8779
10°	9185	8537	8424
15°	9068	8235	8048
20°	8910	7909	7694
25°	8727	7588	7330
30°	8512	7285	7037
35°	8313	6984	6776
40°	8089	6725	6563
45°	7848	6491	6348
50°	7625	6252	6147
55°	7333	6028	5934
60°	7074	5780	5723
65°	6786	5527	5468
70°	6373	5228	5223
75°	5920	4907	4936
80°	5270	4592	4684
85°	4614	4343	4434

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7848 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.8	2.5
10°-20°	131.6	7.1
20°-30°	199.3	10.7
30°-40°	243.1	13.1
40°-50°	261.6	14.1
50°-60°	254.4	13.7
60°-70°	222.4	12.0
70°-80°	171.2	9.2
80°-90°	115.0	6.2
90°-100°	79.6	4.3
100°-110°	58.6	3.2
110°-120°	39.0	2.1
120°-130°	22.0	1.2
130°-140°	9.5	0.5
140°-150°	1.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	376.8	20.3
0°-40°	619.9	33.4
0°-60°	1135.9	61.2
0°-90°	1644.5	88.7
90°-120°	177.2	9.6
90°-150°	210.4	11.3
90°-180°	210.0	11.3
0°-180°	1855.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	485	483	479	483	482	46
15°	462	464	464	471	471	130
25°	419	426	432	441	442	193
35°	363	375	388	403	408	227
45°	298	316	342	363	370	230
55°	228	254	290	316	324	204
65°	158	191	233	261	270	155
75°	87	127	171	201	210	92
85°	26	69	115	144	153	27
90°	7	48	94	122	131	5
95°	5	39	82	108	116	4
105°	4	24	62	86	94	4
115°	3	11	43	65	72	3
125°	2	1	26	44	50	2
135°	1	1	9	24	30	1
145°	1	0	0	5	8	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-H485D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	483.4	483.4	483.4	483.4	483.4
2.5°	486.8	484.7	479.4	483.4	482.1
5°	484.7	482.7	478.7	482.7	482.1
7.5°	481.4	480.0	476.7	482.1	481.4
10°	476.7	476.0	474.0	479.4	479.4
12.5°	469.9	470.6	469.9	476.0	475.3
15°	462.5	464.5	464.5	470.6	470.6
17.5°	453.1	456.5	457.8	464.5	463.9
20°	443.0	447.0	449.7	457.1	458.5
22.5°	430.9	436.9	441.0	449.1	449.7
25°	419.4	426.2	431.6	441.0	441.7
27.5°	406.0	414.1	422.1	431.6	433.6
30°	391.8	401.9	411.4	422.8	425.5
32.5°	378.4	388.5	400.6	412.7	417.4
35°	362.9	375.0	388.5	403.3	408.0
37.5°	347.4	360.2	376.4	393.9	399.9
40°	331.2	346.1	365.6	384.4	390.5
42.5°	314.4	330.6	354.1	373.7	380.4
45°	297.6	315.8	342.0	362.9	370.3
47.5°	281.4	300.9	329.2	352.8	359.5
50°	263.9	285.5	316.4	340.7	348.7
52.5°	245.7	270.0	303.6	328.6	336.6
55°	227.6	254.5	290.2	316.4	324.5
57.5°	210.7	239.0	276.7	303.0	312.4
60°	192.6	222.8	261.9	289.5	298.9
62.5°	174.4	207.4	247.1	275.4	284.1
65°	157.5	191.2	232.9	261.2	270.0
67.5°	138.7	174.4	217.5	247.1	255.2
70°	121.2	158.9	202.0	231.6	241.0
72.5°	103.7	142.1	186.5	216.1	226.2
75°	86.9	126.6	171.0	201.3	210.1
77.5°	69.3	111.1	156.2	186.5	195.2
80°	53.9	95.6	141.4	171.7	181.1
82.5°	38.4	81.5	127.9	157.5	166.3
85°	26.3	69.3	115.1	144.1	152.8
87.5°	15.5	57.9	103.0	132.0	140.7
90°	7.4	48.5	93.6	121.9	130.6
92.5°	6.1	43.8	86.9	114.5	123.2
95°	5.4	39.0	81.5	108.4	116.5
97.5°	5.4	35.7	76.8	103.0	111.1
100°	4.7	31.6	71.4	96.9	105.7
102.5°	4.7	27.6	66.7	91.6	99.6
105°	4.0	24.2	61.9	86.2	93.6
107.5°	3.4	20.9	56.6	80.8	88.2
110°	3.4	17.5	51.8	75.4	82.8



TEST NUMBER: P243194

CATALOG NUMBER: S122DRP-H485D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	14.8	47.8	70.0	77.4
115°	2.7	11.4	43.1	64.6	72.0
117.5°	2.7	8.1	38.4	59.2	66.7
120°	2.0	5.4	34.3	54.5	61.3
122.5°	2.0	3.4	29.6	49.1	55.9
125°	2.0	1.3	25.6	43.8	50.5
127.5°	1.3	1.3	20.9	39.0	45.1
130°	1.3	0.7	16.8	33.7	39.7
132.5°	1.3	0.7	12.8	29.0	34.3
135°	0.7	0.7	8.8	23.6	29.6
137.5°	0.7	0.7	4.7	18.9	23.6
140°	0.7	0.0	2.0	14.1	18.2
142.5°	0.7	0.0	0.0	9.4	13.5
145°	0.7	0.0	0.0	5.4	8.1
147.5°	0.0	0.0	0.0	1.3	4.0
150°	0.0	0.0	0.0	0.0	0.7
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	15.93	17.41	16.46	17.94	18.52	18.99	20.47	19.52	21.00	21.59
	3H	17.43	18.78	17.97	19.32	19.94	21.63	22.98	22.17	23.52	24.14
	4H	17.94	19.22	18.50	19.77	20.41	22.91	24.19	23.47	24.74	25.38
	6H	18.25	19.45	18.83	20.02	20.67	24.23	25.43	24.81	26.00	26.65
	8H	18.33	19.48	18.91	20.07	20.72	24.92	26.06	25.50	26.66	27.31
	12H	18.37	19.47	18.96	20.05	20.74	25.67	26.77	26.26	27.36	28.04
4H	2H	17.05	18.33	17.61	18.89	19.52	19.39	20.67	19.95	21.23	21.86
	3H	18.81	19.91	19.38	20.50	21.16	22.23	23.33	22.81	23.93	24.58
	4H	19.46	20.47	20.05	21.07	21.76	23.67	24.68	24.27	25.29	25.97
	6H	19.91	20.80	20.52	21.43	22.13	25.18	26.07	25.79	26.70	27.40
	8H	20.04	20.88	20.65	21.51	22.22	25.96	26.80	26.58	27.43	28.14
	12H	20.11	20.88	20.75	21.53	22.25	26.83	27.59	27.47	28.25	28.96
8H	4H	20.30	21.14	20.91	21.77	22.48	23.87	24.71	24.48	25.34	26.05
	6H	20.96	21.68	21.61	22.35	23.06	25.53	26.24	26.18	26.91	27.63
	8H	21.19	21.84	21.85	22.52	23.24	26.44	27.08	27.10	27.76	28.49
	12H	21.36	21.94	22.02	22.61	23.40	27.47	28.05	28.13	28.71	29.50
12H	4H	20.53	21.29	21.17	21.95	22.66	23.87	24.64	24.51	25.29	26.01
	6H	21.30	21.95	21.96	22.63	23.36	25.56	26.21	26.22	26.89	27.61
	8H	21.64	22.22	22.31	22.89	23.68	26.53	27.11	27.19	27.78	28.57