

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: P243180

Luminaire Tested: S122DRP-H485D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243180
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-H485D927-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

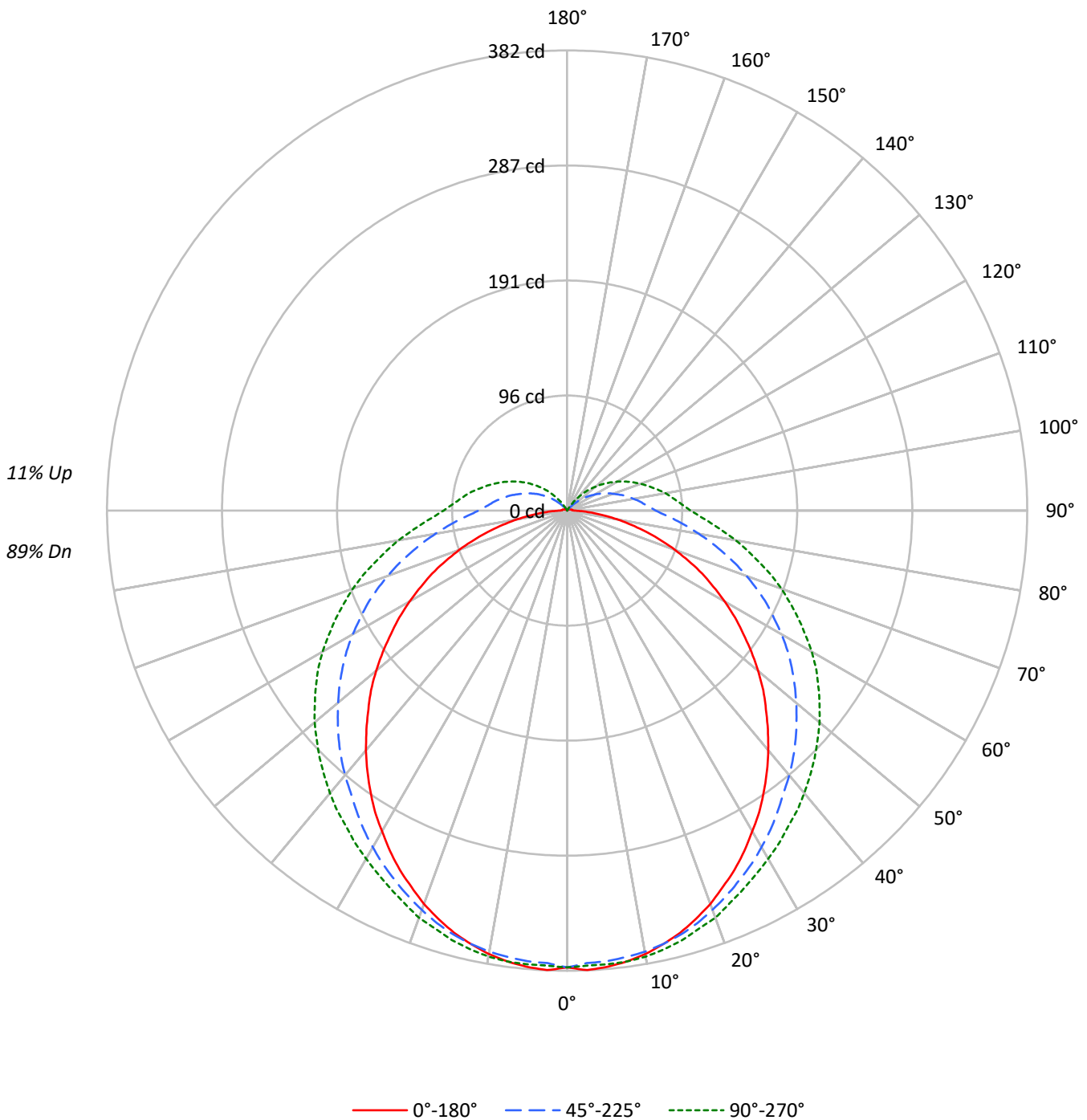
Lumens per Lamp: N/A
Luminaire Lumens: 1455.1 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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

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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°	7223	7223	7223
5°	7258	6926	6885
10°	7204	6696	6607
15°	7113	6460	6314
20°	6989	6205	6036
25°	6846	5951	5750
30°	6678	5714	5521
35°	6522	5477	5315
40°	6345	5275	5148
45°	6155	5092	4980
50°	5981	4904	4823
55°	5751	4728	4656
60°	5546	4533	4490
65°	5325	4336	4290
70°	5001	4099	4098
75°	4639	3848	3872
80°	4136	3602	3676
85°	3614	3407	3479

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6155 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.0	2.5
10°-20°	103.2	7.1
20°-30°	156.4	10.7
30°-40°	190.7	13.1
40°-50°	205.2	14.1
50°-60°	199.5	13.7
60°-70°	174.4	12.0
70°-80°	134.3	9.2
80°-90°	90.2	6.2
90°-100°	62.5	4.3
100°-110°	45.9	3.2
110°-120°	30.6	2.1
120°-130°	17.3	1.2
130°-140°	7.4	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°	295.5	20.3
0°-40°	486.3	33.4
0°-60°	891.0	61.2
0°-90°	1290.0	88.7
90°-120°	139.0	9.5
90°-150°	165.1	11.3
90°-180°	165.0	11.3
0°-180°	1455.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	379	379	379	379	379	
5°	380	379	376	379	378	36
15°	363	364	364	369	369	102
25°	329	334	338	346	346	151
35°	285	294	305	316	320	178
45°	233	248	268	285	290	180
55°	178	200	228	248	255	160
65°	124	150	183	205	212	122
75°	68	99	134	158	165	72
85°	21	54	90	113	120	21
90°	6	38	73	96	102	4
95°	4	31	64	85	91	3
105°	3	19	49	68	73	3
115°	2	9	34	51	56	2
125°	2	1	20	34	40	1
135°	0	0	7	18	23	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	379.2	379.2	379.2	379.2	379.2
2.5°	381.8	380.3	376.0	379.2	378.1
5°	380.3	378.7	375.5	378.7	378.1
7.5°	377.6	376.6	373.9	378.1	377.6
10°	373.9	373.4	371.8	376.0	376.0
12.5°	368.6	369.2	368.6	373.4	372.9
15°	362.8	364.4	364.4	369.2	369.2
17.5°	355.4	358.1	359.1	364.4	363.9
20°	347.5	350.7	352.8	358.6	359.7
22.5°	338.0	342.8	345.9	352.3	352.8
25°	329.0	334.3	338.5	345.9	346.5
27.5°	318.5	324.8	331.1	338.5	340.1
30°	307.4	315.3	322.7	331.7	333.8
32.5°	296.8	304.7	314.2	323.7	327.4
35°	284.7	294.2	304.7	316.4	320.0
37.5°	272.5	282.6	295.2	309.0	313.7
40°	259.8	271.5	286.8	301.6	306.3
42.5°	246.6	259.3	277.8	293.1	298.4
45°	233.4	247.7	268.3	284.7	290.5
47.5°	220.8	236.1	258.3	276.7	282.0
50°	207.0	223.9	248.2	267.2	273.6
52.5°	192.8	211.8	238.2	257.7	264.1
55°	178.5	199.6	227.6	248.2	254.6
57.5°	165.3	187.5	217.1	237.7	245.1
60°	151.0	174.8	205.4	227.1	234.5
62.5°	136.8	162.7	193.8	216.0	222.9
65°	123.6	150.0	182.7	204.9	211.8
67.5°	108.8	136.8	170.6	193.8	200.2
70°	95.1	124.6	158.4	181.7	189.1
72.5°	81.3	111.4	146.3	169.5	177.5
75°	68.1	99.3	134.1	157.9	164.8
77.5°	54.4	87.1	122.5	146.3	153.2
80°	42.3	75.0	110.9	134.7	142.1
82.5°	30.1	63.9	100.3	123.6	130.4
85°	20.6	54.4	90.3	113.0	119.9
87.5°	12.1	45.4	80.8	103.5	110.4
90°	5.8	38.0	73.4	95.6	102.5
92.5°	4.8	34.3	68.1	89.8	96.6
95°	4.2	30.6	63.9	85.0	91.4
97.5°	4.2	28.0	60.2	80.8	87.1
100°	3.7	24.8	56.0	76.1	82.9
102.5°	3.7	21.7	52.3	71.8	78.2
105°	3.2	19.0	48.6	67.6	73.4
107.5°	2.6	16.4	44.4	63.4	69.2
110°	2.6	13.7	40.7	59.2	65.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	11.6	37.5	54.9	60.7
115°	2.1	9.0	33.8	50.7	56.5
117.5°	2.1	6.3	30.1	46.5	52.3
120°	1.6	4.2	26.9	42.8	48.1
122.5°	1.6	2.6	23.2	38.6	43.8
125°	1.6	1.1	20.1	34.3	39.6
127.5°	1.1	1.1	16.4	30.6	35.4
130°	1.1	0.5	13.2	26.4	31.2
132.5°	1.1	0.5	10.0	22.7	26.9
135°	0.5	0.5	6.9	18.5	23.2
137.5°	0.5	0.5	3.7	14.8	18.5
140°	0.5	0.0	1.6	11.1	14.3
142.5°	0.5	0.0	0.0	7.4	10.6
145°	0.5	0.0	0.0	4.2	6.3
147.5°	0.0	0.0	0.0	1.1	3.2
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	15.09	16.57	15.62	17.10	17.68	18.15	19.63	18.68	20.16	20.74
	3H	16.59	17.94	17.13	18.48	19.10	20.79	22.14	21.33	22.68	23.30
	4H	17.09	18.37	17.65	18.93	19.56	22.06	23.35	22.62	23.90	24.53
	6H	17.41	18.61	17.98	19.17	19.82	23.39	24.59	23.97	25.16	25.80
	8H	17.49	18.63	18.07	19.22	19.88	24.07	25.22	24.66	25.81	26.47
	12H	17.52	18.62	18.12	19.21	19.89	24.83	25.93	25.42	26.51	27.20
4H	2H	16.21	17.49	16.77	18.04	18.68	18.55	19.83	19.11	20.38	21.02
	3H	17.96	19.06	18.54	19.66	20.31	21.39	22.49	21.96	23.08	23.74
	4H	18.61	19.62	19.21	20.23	20.91	22.83	23.84	23.42	24.44	25.13
	6H	19.07	19.96	19.68	20.59	21.28	24.34	25.23	24.95	25.86	26.55
	8H	19.19	20.03	19.81	20.66	21.37	25.12	25.96	25.73	26.59	27.30
	12H	19.27	20.03	19.91	20.69	21.41	25.98	26.75	26.62	27.40	28.12
8H	4H	19.45	20.29	20.07	20.92	21.63	23.02	23.86	23.64	24.49	25.20
	6H	20.12	20.83	20.76	21.50	22.22	24.68	25.40	25.33	26.07	26.78
	8H	20.35	21.00	21.01	21.67	22.40	25.59	26.24	26.25	26.92	27.64
	12H	20.52	21.09	21.18	21.76	22.55	26.62	27.20	27.29	27.87	28.66
12H	4H	19.68	20.45	20.32	21.10	21.82	23.03	23.79	23.67	24.45	25.17
	6H	20.46	21.11	21.12	21.78	22.51	24.72	25.37	25.38	26.04	26.77
	8H	20.80	21.38	21.46	22.04	22.83	25.69	26.27	26.35	26.93	27.72