

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: P242352

Luminaire Tested: S122DRP-S1005D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242352
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S1005D940-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

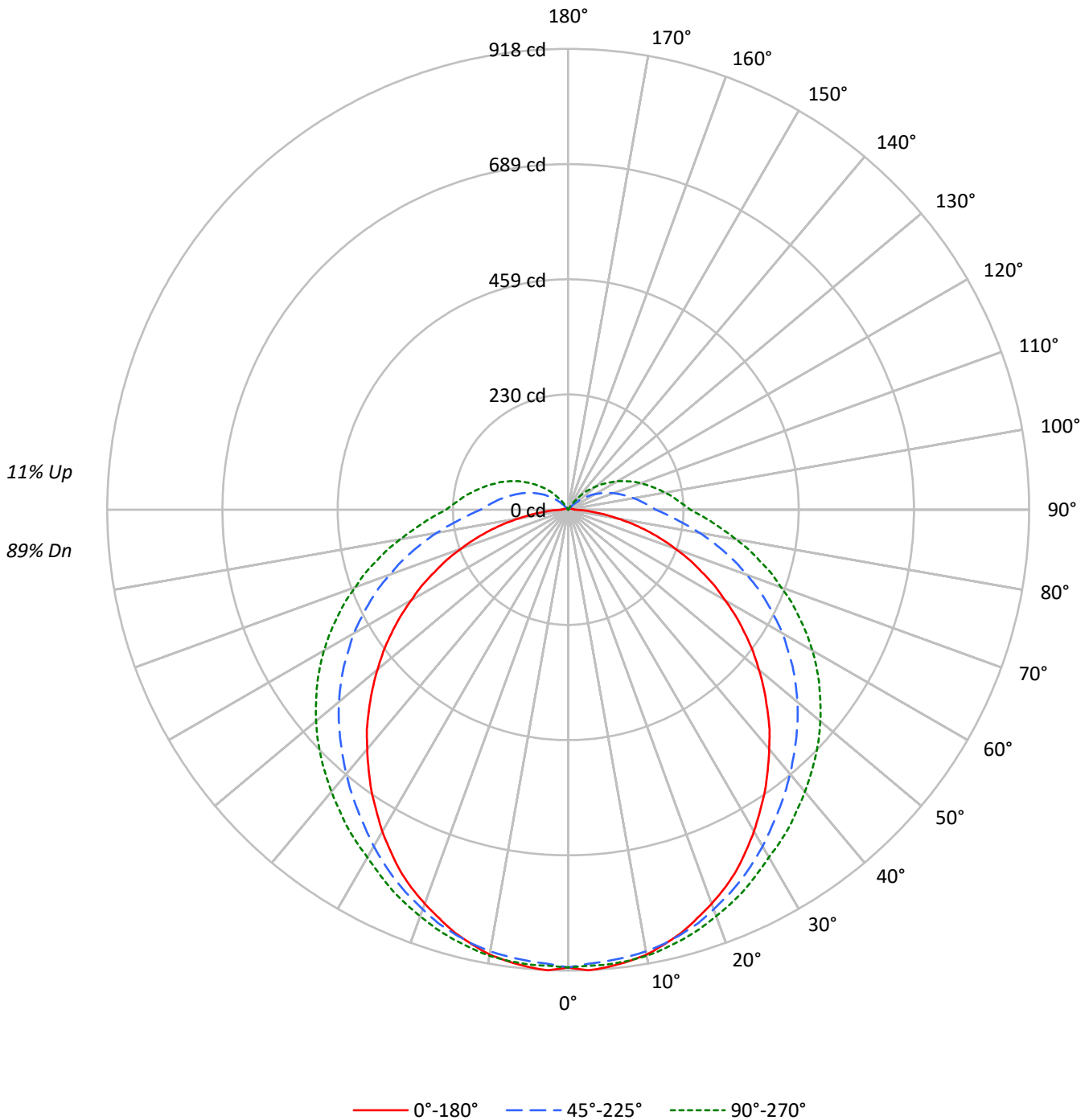
Lumens per Lamp: N/A
Luminaire Lumens: 3479.5 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 41.1
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	85	81	82	79	77	77	75	72	69
2	94	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	42	39
5	71	57	48	41	68	56	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	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	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°	17370	17370	17370
5°	17453	16648	16558
10°	17342	16090	15860
15°	17101	15510	15143
20°	16798	14898	14460
25°	16501	14312	13839
30°	16078	13713	13224
35°	15653	13137	12775
40°	15204	12640	12328
45°	14778	12191	11940
50°	14319	11777	11555
55°	13838	11337	11166
60°	13251	10880	10754
65°	12641	10350	10278
70°	11953	9783	9767
75°	11077	9214	9285
80°	9689	8625	8784
85°	8350	8078	8360

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14778 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.4	2.5
10°-20°	247.9	7.1
20°-30°	375.7	10.8
30°-40°	457.5	13.1
40°-50°	492.2	14.1
50°-60°	478.0	13.7
60°-70°	417.4	12.0
70°-80°	321.3	9.2
80°-90°	215.2	6.2
90°-100°	148.5	4.3
100°-110°	108.4	3.1
110°-120°	71.6	2.1
120°-130°	39.9	1.1
130°-140°	16.7	0.5
140°-150°	2.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	710.1	20.4
0°-40°	1167.5	33.6
0°-60°	2137.7	61.4
0°-90°	3091.6	88.9
90°-120°	328.4	9.4
90°-150°	387.9	11.1
90°-180°	388.0	11.2
0°-180°	3479.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	912	912	912	912	912	
5°	914	911	903	911	909	87
15°	872	875	875	887	886	246
25°	793	802	814	830	834	365
35°	683	706	731	760	769	427
45°	560	596	642	683	696	433
55°	430	477	546	593	611	384
65°	293	358	436	490	508	292
75°	163	237	321	378	395	172
85°	48	130	214	270	288	50
90°	13	90	174	227	243	9
95°	11	73	152	202	218	8
105°	7	45	114	160	174	8
115°	5	20	79	119	134	5
125°	3	3	45	81	92	3
135°	1	1	14	42	53	1
145°	0	0	0	8	14	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°	911.9	911.9	911.9	911.9	911.9
2.5°	918.5	914.5	905.3	911.9	909.3
5°	914.5	910.6	902.6	910.6	909.3
7.5°	907.9	905.3	898.7	907.9	906.6
10°	900.0	897.4	893.4	904.0	902.6
12.5°	886.8	888.1	885.5	896.0	894.7
15°	872.2	874.9	874.9	886.8	885.5
17.5°	853.7	859.0	863.0	874.9	874.9
20°	835.2	841.9	847.1	861.7	861.7
22.5°	815.4	823.3	831.3	845.8	848.5
25°	793.0	802.2	814.1	830.0	833.9
27.5°	766.5	781.1	794.3	814.1	816.7
30°	740.1	757.3	774.4	795.6	799.6
32.5°	711.0	730.8	752.0	777.1	785.0
35°	683.3	705.7	730.8	759.9	769.2
37.5°	652.9	678.0	709.7	741.4	750.7
40°	622.5	651.5	687.2	721.6	733.5
42.5°	593.4	622.5	664.8	703.1	715.0
45°	560.4	596.0	642.3	683.3	696.5
47.5°	528.6	567.0	619.8	662.1	676.7
50°	495.6	536.6	596.0	641.0	655.5
52.5°	463.9	507.5	570.9	617.2	633.0
55°	429.5	477.1	545.8	593.4	610.6
57.5°	396.5	449.3	518.1	569.6	586.8
60°	360.8	417.6	493.0	543.2	561.7
62.5°	329.1	388.5	463.9	518.1	535.2
65°	293.4	358.1	436.1	490.3	507.5
67.5°	261.7	329.1	408.4	462.6	481.1
70°	227.3	296.0	378.0	434.8	450.7
72.5°	195.6	267.0	350.2	405.7	425.6
75°	162.6	236.6	321.1	378.0	395.2
77.5°	130.8	207.5	293.4	350.2	368.7
80°	99.1	179.7	265.6	321.1	339.6
82.5°	72.7	152.0	239.2	294.7	311.9
85°	47.6	129.5	214.1	269.6	288.1
87.5°	29.1	108.4	193.0	247.1	264.3
90°	13.2	89.9	174.4	227.3	243.2
92.5°	11.9	81.9	162.6	214.1	230.0
95°	10.6	72.7	152.0	202.2	218.1
97.5°	9.3	66.1	142.7	191.6	207.5
100°	9.3	58.1	132.2	181.1	195.6
102.5°	7.9	51.5	122.9	170.5	185.0
105°	6.6	44.9	113.7	159.9	174.4
107.5°	6.6	38.3	104.4	149.3	163.9
110°	5.3	31.7	96.5	138.8	153.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.3	26.4	87.2	129.5	144.1
115°	5.3	19.8	79.3	118.9	133.5
117.5°	4.0	14.5	70.0	109.7	122.9
120°	4.0	9.3	62.1	99.1	113.7
122.5°	4.0	5.3	54.2	89.9	101.8
125°	2.6	2.6	44.9	80.6	92.5
127.5°	2.6	1.3	37.0	70.0	81.9
130°	2.6	1.3	29.1	60.8	71.4
132.5°	2.6	1.3	21.1	51.5	62.1
135°	1.3	1.3	14.5	42.3	52.9
137.5°	1.3	1.3	7.9	33.0	42.3
140°	1.3	0.0	2.6	23.8	31.7
142.5°	1.3	0.0	0.0	15.9	22.5
145°	0.0	0.0	0.0	7.9	14.5
147.5°	0.0	0.0	0.0	1.3	5.3
150°	0.0	0.0	0.0	0.0	0.0
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	18.14	19.62	18.66	20.15	20.72	21.20	22.68	21.73	23.21	23.79
	3H	19.64	20.99	20.18	21.53	22.15	23.83	25.18	24.37	25.72	26.34
	4H	20.14	21.42	20.70	21.98	22.61	25.11	26.39	25.67	26.95	27.58
	6H	20.45	21.65	21.02	22.22	22.86	26.44	27.64	27.01	28.20	28.85
	8H	20.53	21.68	21.11	22.27	22.92	27.12	28.27	27.70	28.86	29.51
	12H	20.57	21.67	21.16	22.25	22.93	27.87	28.98	28.46	29.56	30.24
4H	2H	19.25	20.53	19.81	21.09	21.72	21.59	22.88	22.15	23.43	24.06
	3H	21.00	22.11	21.58	22.70	23.35	24.43	25.53	25.00	26.13	26.78
	4H	21.65	22.66	22.24	23.26	23.94	25.87	26.88	26.46	27.49	28.17
	6H	22.10	23.00	22.71	23.62	24.32	27.38	28.28	27.99	28.90	29.59
	8H	22.23	23.07	22.84	23.70	24.40	28.16	29.00	28.77	29.63	30.33
	12H	22.30	23.07	22.94	23.72	24.43	29.03	29.79	29.66	30.45	31.16
8H	4H	22.49	23.34	23.11	23.96	24.67	26.07	26.91	26.68	27.54	28.24
	6H	23.15	23.87	23.80	24.54	25.25	27.73	28.45	28.37	29.11	29.82
	8H	23.38	24.03	24.04	24.71	25.43	28.63	29.28	29.29	29.95	30.68
	12H	23.55	24.13	24.21	24.79	25.58	29.67	30.25	30.33	30.91	31.70
12H	4H	22.72	23.49	23.36	24.14	24.85	26.07	26.84	26.71	27.49	28.20
	6H	23.50	24.15	24.15	24.82	25.54	27.76	28.41	28.42	29.08	29.81
	8H	23.83	24.41	24.49	25.08	25.86	28.73	29.31	29.39	29.97	30.76