

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: P243378

Luminaire Tested: S123DRP-H1000D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243378
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1000D935-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

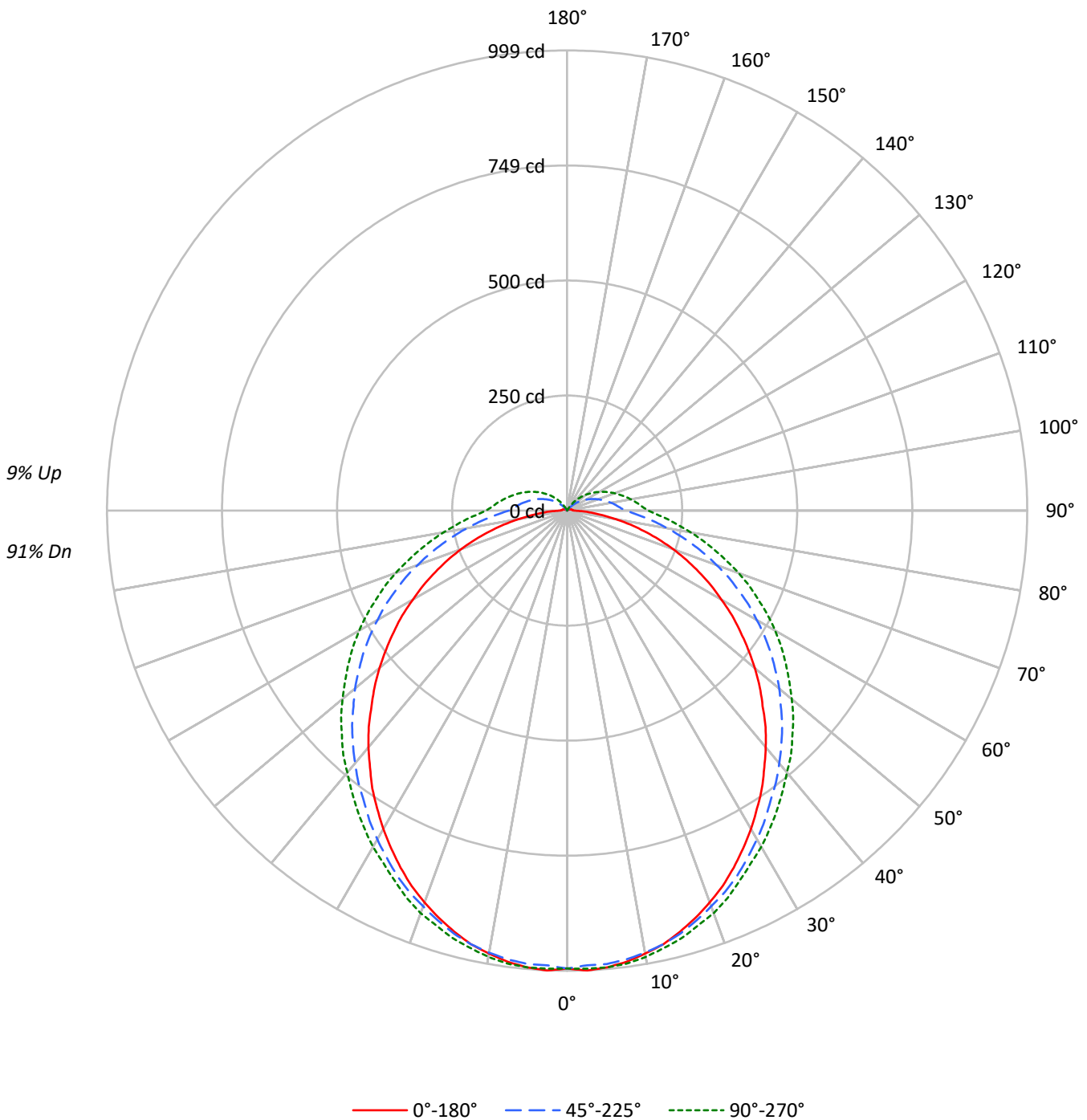
Lumens per Lamp: N/A
Luminaire Lumens: 3374.5 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 31.5
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	50	30	10	0	
RCR																						
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	94	94	94	91	
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	76	76	76	73	
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	62	62	62	60	
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	52	52	52	50	
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	45	45	45	42	
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	39	39	39	36	
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	34	34	31	
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	30	30	30	28	
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	27	27	27	25	
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22	
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	22	22	22	20	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12051	12051	12051
5°	12088	11742	11737
10°	11975	11445	11380
15°	11809	11119	10989
20°	11584	10731	10593
25°	11325	10372	10136
30°	11036	9969	9751
35°	10745	9561	9366
40°	10426	9227	9000
45°	10074	8898	8693
50°	9778	8561	8375
55°	9417	8218	8061
60°	9038	7839	7757
65°	8642	7433	7384
70°	8188	6998	7021
75°	7504	6527	6593
80°	6645	6057	6216
85°	5906	5678	5929

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10074 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	2.8
10°-20°	269.1	8.0
20°-30°	403.0	11.9
30°-40°	482.3	14.3
40°-50°	505.7	15.0
50°-60°	475.4	14.1
60°-70°	397.9	11.8
70°-80°	285.5	8.5
80°-90°	171.0	5.1
90°-100°	108.4	3.2
100°-110°	79.9	2.4
110°-120°	53.5	1.6
120°-130°	30.9	0.9
130°-140°	14.2	0.4
140°-150°	3.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	766.5	22.7
0°-40°	1248.8	37.0
0°-60°	2229.9	66.1
0°-90°	3084.3	91.4
90°-120°	241.8	7.2
90°-150°	290.2	8.6
90°-180°	290.0	8.6
0°-180°	3374.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	994	994	994	994	994	
5°	995	994	988	996	995	94
15°	946	953	951	963	961	267
25°	855	867	874	887	886	394
35°	737	755	769	789	794	460
45°	600	630	660	683	692	464
55°	459	498	540	569	580	411
65°	315	362	410	447	458	313
75°	173	226	281	319	332	184
85°	53	108	168	206	220	54
90°	14	68	126	165	176	10
95°	11	56	110	145	156	9
105°	8	36	84	115	124	9
115°	5	19	59	86	95	6
125°	4	4	36	59	67	3
135°	2	1	16	34	40	2
145°	1	0	0	10	14	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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	994.2	994.2	994.2	994.2	994.2
2.5°	999.4	996.3	988.0	997.3	995.3
5°	995.3	994.2	988.0	996.3	995.3
7.5°	988.0	988.0	982.8	992.1	992.1
10°	976.6	979.7	974.5	984.9	983.9
12.5°	964.2	968.3	964.2	975.6	972.5
15°	946.5	952.8	950.7	963.1	961.0
17.5°	926.8	934.1	933.1	945.5	944.5
20°	905.1	914.4	914.4	926.8	929.9
22.5°	882.3	892.6	895.7	908.2	910.2
25°	855.3	866.7	874.0	887.4	886.4
27.5°	827.3	840.8	849.1	863.6	863.6
30°	798.3	813.8	824.2	839.7	842.9
32.5°	767.2	785.8	798.3	814.9	819.0
35°	737.1	754.7	769.3	789.0	794.1
37.5°	702.9	724.7	744.4	765.1	768.2
40°	670.8	694.6	716.4	738.2	742.3
42.5°	637.6	662.5	688.4	710.2	719.5
45°	600.3	630.3	660.4	683.2	691.5
47.5°	567.1	597.2	629.3	656.2	665.6
50°	531.8	562.9	601.3	627.2	636.6
52.5°	495.6	529.8	570.2	598.2	607.5
55°	459.3	497.6	540.1	569.2	579.5
57.5°	425.1	463.4	508.0	540.1	551.5
60°	386.7	429.2	475.9	509.0	521.5
62.5°	352.5	396.0	444.8	477.9	490.4
65°	315.2	361.8	410.5	446.8	458.2
67.5°	281.0	326.6	379.4	415.7	428.2
70°	244.7	292.4	345.2	382.6	396.0
72.5°	208.4	259.2	313.1	351.5	362.9
75°	173.1	226.0	281.0	319.3	331.8
77.5°	140.0	192.8	249.9	288.2	301.7
80°	106.8	161.7	220.8	259.2	272.7
82.5°	77.8	133.7	193.9	231.2	243.6
85°	52.9	107.8	167.9	206.3	219.8
87.5°	31.1	87.1	145.1	183.5	194.9
90°	14.5	68.4	126.5	164.8	176.2
92.5°	13.5	61.2	117.2	153.4	164.8
95°	11.4	56.0	109.9	145.1	156.5
97.5°	11.4	50.8	103.7	137.9	148.3
100°	10.4	45.6	97.5	129.6	140.0
102.5°	9.3	40.4	90.2	122.3	132.7
105°	8.3	36.3	84.0	115.1	124.4
107.5°	7.3	31.1	77.8	107.8	117.2
110°	7.3	27.0	71.5	100.6	109.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.2	22.8	65.3	93.3	102.6
115°	5.2	18.7	59.1	86.0	95.4
117.5°	5.2	14.5	52.9	79.8	88.1
120°	5.2	11.4	47.7	72.6	80.9
122.5°	4.1	7.3	42.5	66.4	74.6
125°	4.1	4.1	36.3	59.1	67.4
127.5°	3.1	2.1	31.1	52.9	60.1
130°	3.1	2.1	25.9	46.7	53.9
132.5°	2.1	2.1	20.7	40.4	47.7
135°	2.1	1.0	15.6	34.2	40.4
137.5°	2.1	1.0	10.4	28.0	34.2
140°	1.0	1.0	5.2	21.8	28.0
142.5°	1.0	0.0	1.0	16.6	21.8
145°	1.0	0.0	0.0	10.4	14.5
147.5°	1.0	0.0	0.0	5.2	9.3
150°	1.0	0.0	0.0	0.0	3.1
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	17.68	19.19	18.18	19.67	20.19	19.75	21.25	20.24	21.74	22.26
	3H	19.24	20.61	19.74	21.10	21.66	22.15	23.52	22.65	24.01	24.57
	4H	19.76	21.06	20.29	21.57	22.15	23.26	24.56	23.79	25.07	25.65
	6H	20.10	21.31	20.64	21.83	22.43	24.39	25.60	24.93	26.12	26.71
	8H	20.19	21.35	20.74	21.89	22.49	24.95	26.11	25.50	26.66	27.25
	12H	20.24	21.35	20.79	21.89	22.51	25.57	26.68	26.13	27.22	27.85
4H	2H	18.60	19.90	19.12	20.41	20.98	20.20	21.50	20.73	22.01	22.59
	3H	20.40	21.51	20.94	22.06	22.66	22.81	23.92	23.35	24.47	25.07
	4H	21.07	22.08	21.63	22.64	23.27	24.09	25.10	24.65	25.66	26.29
	6H	21.54	22.43	22.12	23.02	23.66	25.39	26.28	25.97	26.87	27.51
	8H	21.68	22.51	22.26	23.10	23.76	26.05	26.89	26.63	27.48	28.13
	12H	21.76	22.52	22.37	23.14	23.80	26.78	27.54	27.38	28.16	28.82
8H	4H	21.71	22.55	22.30	23.14	23.80	24.31	25.15	24.89	25.74	26.39
	6H	22.37	23.08	22.99	23.71	24.37	25.77	26.48	26.39	27.11	27.77
	8H	22.60	23.24	23.23	23.88	24.56	26.56	27.20	27.18	27.84	28.51
	12H	22.77	23.35	23.40	23.97	24.71	27.45	28.02	28.08	28.65	29.39
12H	4H	21.87	22.64	22.48	23.25	23.91	24.32	25.08	24.93	25.70	26.36
	6H	22.62	23.26	23.25	23.90	24.57	25.81	26.45	26.44	27.09	27.77
	8H	22.94	23.52	23.57	24.14	24.88	26.66	27.23	27.29	27.86	28.60