

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: P243546

Luminaire Tested: S124DRP-H1195D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243546
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1195D930-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

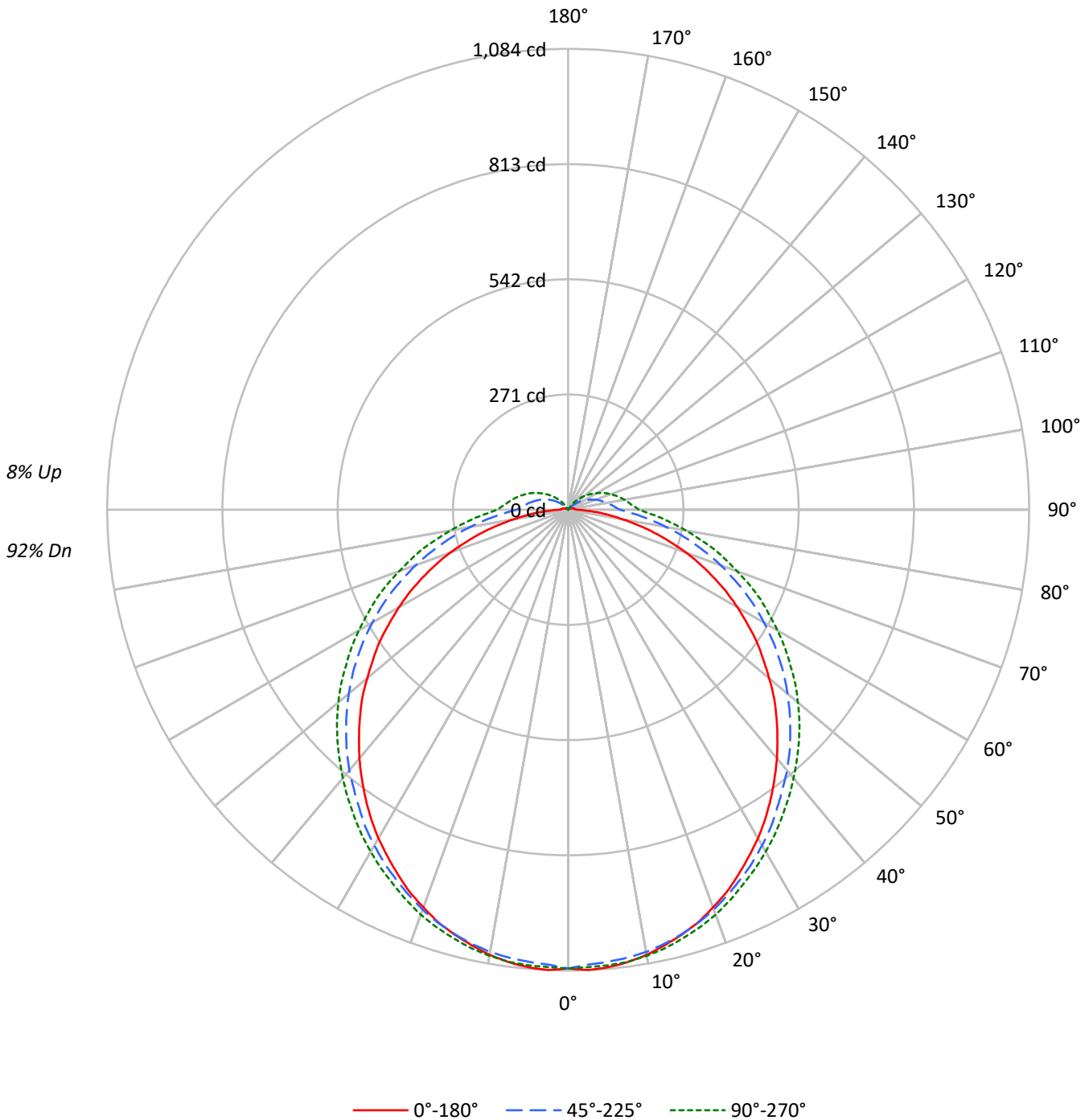
Lumens per Lamp: N/A
Luminaire Lumens: 3688.8 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): 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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9593	9593	9593
5°	9621	9360	9380
10°	9559	9203	9184
15°	9465	9017	8963
20°	9343	8817	8742
25°	9199	8587	8483
30°	9045	8373	8262
35°	8876	8136	8033
40°	8706	7932	7819
45°	8524	7712	7614
50°	8319	7491	7401
55°	8139	7255	7156
60°	7882	6992	6917
65°	7586	6698	6676
70°	7232	6363	6330
75°	6673	5952	6080
80°	5913	5557	5726
85°	5354	5236	5518

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8524 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.2	2.8
10°-20°	293.0	7.9
20°-30°	443.4	12.0
30°-40°	537.0	14.6
40°-50°	567.9	15.4
50°-60°	535.0	14.5
60°-70°	444.6	12.1
70°-80°	312.5	8.5
80°-90°	176.0	4.8
90°-100°	104.5	2.8
100°-110°	77.3	2.1
110°-120°	51.6	1.4
120°-130°	29.1	0.8
130°-140°	12.5	0.3
140°-150°	2.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	838.6	22.7
0°-40°	1375.5	37.3
0°-60°	2478.4	67.2
0°-90°	3411.5	92.5
90°-120°	233.4	6.3
90°-150°	277.3	7.5
90°-180°	277.0	7.5
0°-180°	3688.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1079	1079	1079	1079	1079	
5°	1080	1076	1068	1077	1076	103
15°	1034	1037	1033	1045	1044	292
25°	947	955	959	972	972	436
35°	830	844	857	875	878	519
45°	693	714	738	760	767	534
55°	541	570	604	631	638	482
65°	377	415	458	486	499	374
75°	210	255	305	340	353	222
85°	65	116	171	208	219	67
90°	20	68	122	155	166	13
95°	16	55	106	139	148	13
105°	12	36	80	110	120	12
115°	8	18	56	83	93	8
125°	5	3	33	56	64	5
135°	2	2	10	30	37	2
145°	1	0	0	7	12	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°	1079.2	1079.2	1079.2	1079.2	1079.2
2.5°	1083.7	1080.3	1071.1	1078.0	1076.9
5°	1080.3	1075.7	1067.7	1076.9	1075.7
7.5°	1073.4	1070.0	1063.1	1073.4	1072.3
10°	1063.1	1060.8	1056.2	1065.4	1065.4
12.5°	1049.3	1049.3	1045.9	1056.2	1056.2
15°	1034.4	1036.7	1033.3	1044.7	1043.6
17.5°	1017.2	1019.5	1018.4	1029.8	1029.8
20°	995.4	998.9	1001.2	1013.8	1013.8
22.5°	973.6	978.2	980.5	994.3	994.3
25°	947.3	955.3	958.7	972.5	972.5
27.5°	919.7	930.1	936.9	949.6	951.9
30°	892.2	903.7	911.7	925.5	928.9
32.5°	862.4	873.9	886.5	900.2	904.8
35°	830.3	844.1	856.7	875.0	878.5
37.5°	797.0	813.1	828.0	847.5	852.1
40°	763.8	783.3	800.5	818.8	824.6
42.5°	728.2	747.7	770.7	790.2	795.9
45°	692.7	714.5	738.5	760.3	767.2
47.5°	657.1	680.1	706.4	729.4	737.4
50°	617.0	642.2	673.2	696.1	705.3
52.5°	578.0	605.5	639.9	662.9	673.2
55°	541.3	570.0	604.4	630.7	637.6
57.5°	498.9	531.0	568.8	597.5	604.4
60°	459.9	492.0	532.1	560.8	568.8
62.5°	419.7	454.1	495.4	524.1	532.1
65°	377.3	415.1	457.6	486.2	498.9
67.5°	336.0	373.9	418.6	450.7	461.0
70°	294.7	333.7	381.9	414.0	422.0
72.5°	251.2	293.6	342.9	376.2	387.6
75°	209.9	254.6	305.1	339.5	353.2
77.5°	169.7	216.7	269.5	305.1	314.2
80°	129.6	181.2	234.0	269.5	281.0
82.5°	97.5	145.6	200.7	238.5	247.7
85°	65.4	115.8	170.9	207.6	219.0
87.5°	39.0	90.6	143.4	177.8	189.2
90°	19.5	67.7	121.6	154.8	166.3
92.5°	17.2	60.8	112.4	145.6	157.1
95°	16.1	55.0	105.5	138.8	147.9
97.5°	14.9	50.5	98.6	130.7	141.1
100°	13.8	44.7	92.9	123.9	134.2
102.5°	12.6	40.1	86.0	117.0	127.3
105°	11.5	35.6	80.3	110.1	120.4
107.5°	10.3	31.0	74.5	103.2	113.5
110°	9.2	26.4	68.8	96.3	106.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.0	22.9	61.9	89.5	99.8
115°	8.0	18.3	56.2	82.6	92.9
117.5°	6.9	13.8	50.5	75.7	84.9
120°	6.9	10.3	44.7	68.8	78.0
122.5°	5.7	6.9	39.0	63.1	71.1
125°	4.6	3.4	33.3	56.2	64.2
127.5°	4.6	3.4	27.5	49.3	57.3
130°	3.4	3.4	21.8	42.4	50.5
132.5°	3.4	2.3	16.1	36.7	43.6
135°	2.3	2.3	10.3	29.8	36.7
137.5°	2.3	1.1	6.9	24.1	31.0
140°	2.3	1.1	2.3	18.3	24.1
142.5°	1.1	1.1	0.0	12.6	17.2
145°	1.1	0.0	0.0	6.9	11.5
147.5°	1.1	0.0	0.0	1.1	5.7
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	17.64	19.17	18.12	19.64	20.13	19.23	20.75	19.70	21.22	21.71
	3H	19.29	20.68	19.78	21.16	21.70	21.54	22.93	22.03	23.40	23.94
	4H	19.87	21.18	20.38	21.68	22.23	22.61	23.92	23.12	24.42	24.97
	6H	20.25	21.47	20.77	21.98	22.55	23.65	24.88	24.18	25.39	25.95
	8H	20.36	21.53	20.89	22.06	22.63	24.17	25.34	24.70	25.87	26.45
	12H	20.42	21.55	20.96	22.07	22.67	24.72	25.85	25.26	26.37	26.97
4H	2H	18.50	19.82	19.01	20.31	20.86	19.73	21.05	20.24	21.54	22.09
	3H	20.39	21.51	20.91	22.05	22.62	22.26	23.38	22.78	23.92	24.49
	4H	21.10	22.13	21.64	22.67	23.28	23.49	24.51	24.03	25.06	25.66
	6H	21.62	22.52	22.18	23.09	23.71	24.71	25.61	25.27	26.19	26.80
	8H	21.77	22.62	22.34	23.19	23.83	25.32	26.17	25.89	26.74	27.37
	12H	21.88	22.65	22.47	23.25	23.88	25.98	26.75	26.57	27.35	27.99
8H	4H	21.68	22.53	22.25	23.10	23.74	23.74	24.59	24.31	25.16	25.79
	6H	22.37	23.09	22.98	23.71	24.34	25.13	25.84	25.73	26.46	27.09
	8H	22.63	23.27	23.24	23.90	24.55	25.86	26.51	26.48	27.13	27.78
	12H	22.81	23.39	23.43	24.00	24.72	26.69	27.27	27.30	27.88	28.60
12H	4H	21.82	22.59	22.41	23.19	23.82	23.76	24.53	24.35	25.13	25.77
	6H	22.59	23.24	23.20	23.86	24.51	25.17	25.82	25.79	26.45	27.10
	8H	22.93	23.50	23.54	24.11	24.83	25.98	26.56	26.59	27.17	27.89