

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: P242696

Luminaire Tested: S124DRP-S1195D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242696
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1195D940-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

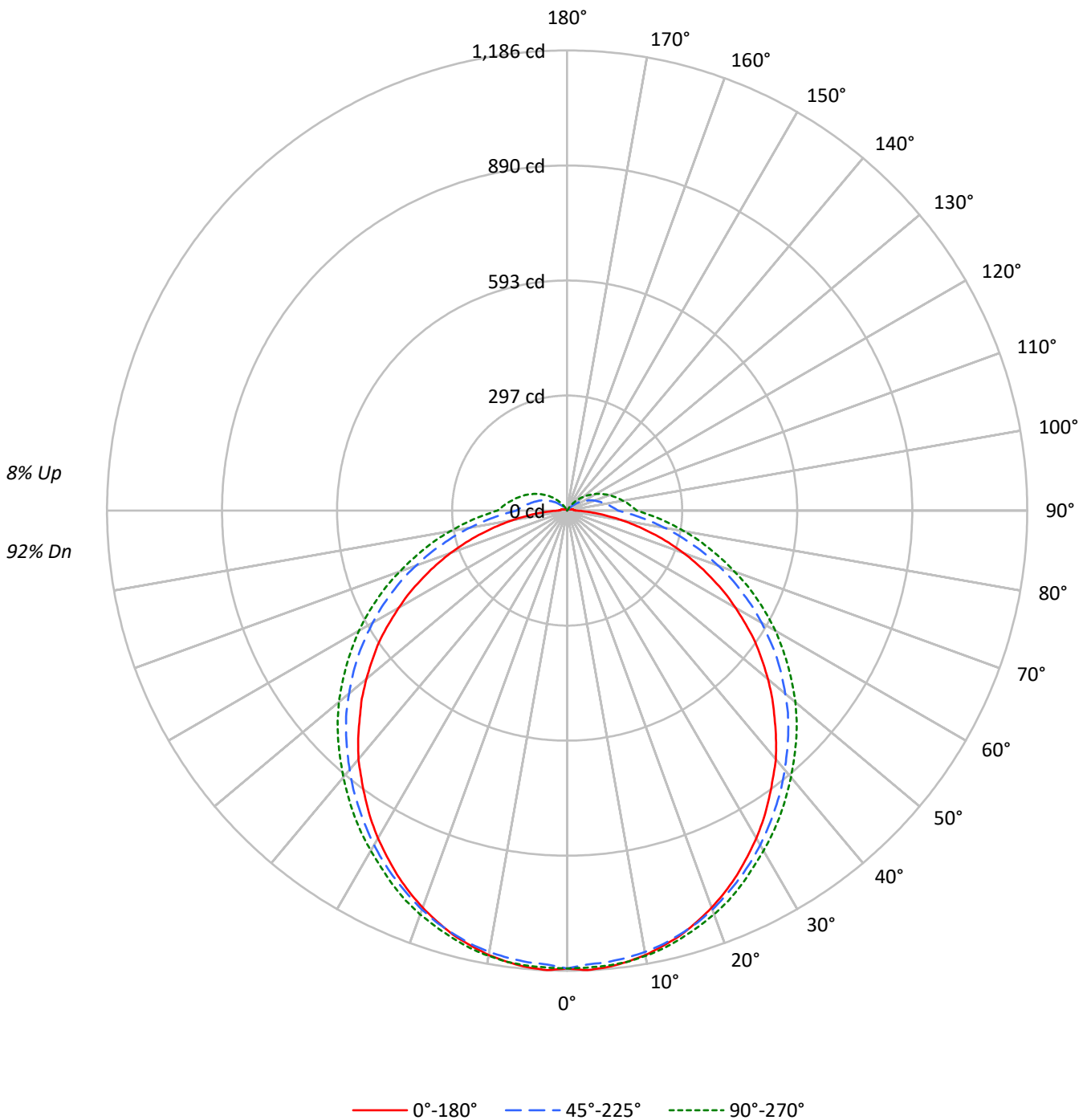
Lumens per Lamp: N/A
Luminaire Lumens: 4023.7 lumens
Efficiency: N/A
Efficacy: 97.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 41.1
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	87	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	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10491	10491	10491
5°	10523	10242	10267
10°	10458	10064	10048
15°	10363	9860	9796
20°	10221	9637	9549
25°	10061	9387	9281
30°	9888	9140	9004
35°	9692	8886	8761
40°	9536	8643	8509
45°	9302	8419	8289
50°	9105	8161	8057
55°	8903	7917	7787
60°	8585	7607	7537
65°	8237	7273	7232
70°	7816	6893	6879
75°	7226	6471	6551
80°	6575	6058	6221
85°	5731	5668	5994

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9302 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.8	2.8
10°-20°	320.4	8.0
20°-30°	484.4	12.0
30°-40°	586.1	14.6
40°-50°	619.6	15.4
50°-60°	583.1	14.5
60°-70°	483.9	12.0
70°-80°	339.5	8.4
80°-90°	191.4	4.8
90°-100°	114.0	2.8
100°-110°	84.4	2.1
110°-120°	56.6	1.4
120°-130°	31.9	0.8
130°-140°	13.8	0.3
140°-150°	2.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	916.7	22.8
0°-40°	1502.7	37.3
0°-60°	2705.4	67.2
0°-90°	3720.3	92.5
90°-120°	255.0	6.3
90°-150°	303.4	7.5
90°-180°	303.0	7.5
0°-180°	4023.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1180	1180	1180	1180	1180	
5°	1182	1178	1168	1179	1178	112
15°	1133	1134	1130	1142	1140	319
25°	1036	1044	1048	1063	1064	477
35°	907	922	936	954	958	568
45°	756	781	806	829	835	584
55°	592	620	660	686	694	528
65°	410	452	497	530	540	406
75°	227	276	332	369	381	242
85°	70	126	185	225	238	73
90°	21	74	131	169	180	14
95°	17	61	115	151	163	14
105°	12	38	87	120	131	13
115°	8	20	62	91	100	8
125°	5	4	37	62	70	5
135°	3	3	12	33	41	2
145°	1	0	0	8	13	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°	1180.2	1180.2	1180.2	1180.2	1180.2
2.5°	1185.5	1181.5	1170.9	1180.2	1178.9
5°	1181.5	1177.5	1168.3	1178.9	1177.5
7.5°	1173.6	1170.9	1163.0	1174.9	1173.6
10°	1163.0	1161.7	1155.1	1167.0	1165.6
12.5°	1148.5	1148.5	1144.5	1155.1	1155.1
15°	1132.6	1133.9	1130.0	1141.8	1140.5
17.5°	1111.5	1115.4	1114.1	1126.0	1124.7
20°	1089.0	1092.9	1094.3	1107.5	1107.5
22.5°	1063.9	1069.2	1071.8	1085.0	1087.7
25°	1036.1	1044.1	1048.0	1062.6	1063.9
27.5°	1005.7	1017.6	1022.9	1036.1	1037.4
30°	975.3	985.9	995.2	1009.7	1012.3
32.5°	942.3	955.5	966.1	983.3	985.9
35°	906.6	922.5	935.7	954.2	958.1
37.5°	870.9	889.4	905.3	923.8	927.8
40°	836.6	853.7	872.2	892.1	897.4
42.5°	796.9	816.7	839.2	861.7	865.6
45°	755.9	781.1	806.2	828.6	835.2
47.5°	717.6	742.7	771.8	794.3	802.2
50°	675.3	704.4	733.5	759.9	767.8
52.5°	633.0	662.1	696.5	722.9	730.8
55°	592.1	619.8	659.5	685.9	693.8
57.5°	545.8	580.2	618.5	650.2	656.8
60°	500.9	535.2	578.9	609.2	619.8
62.5°	457.3	495.6	539.2	569.6	580.2
65°	409.7	452.0	496.9	530.0	540.5
67.5°	364.8	409.7	457.3	490.3	500.9
70°	318.5	363.4	413.7	449.3	458.6
72.5°	273.6	319.8	374.0	408.4	418.9
75°	227.3	276.2	331.7	368.7	380.6
77.5°	183.7	235.2	293.4	330.4	343.6
80°	144.1	196.9	255.1	294.7	305.3
82.5°	104.4	159.9	218.1	259.0	270.9
85°	70.0	125.6	185.0	224.7	237.9
87.5°	43.6	97.8	155.9	194.3	206.2
90°	21.1	74.0	130.8	169.2	179.7
92.5°	19.8	66.1	122.9	159.9	170.5
95°	17.2	60.8	115.0	150.7	162.6
97.5°	15.9	54.2	108.4	142.7	154.6
100°	14.5	48.9	100.4	136.1	145.4
102.5°	14.5	43.6	93.8	128.2	138.8
105°	11.9	38.3	87.2	120.3	130.8
107.5°	11.9	34.4	80.6	113.7	122.9
110°	10.6	29.1	75.3	105.7	116.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	9.3	25.1	68.7	97.8	108.4
115°	7.9	19.8	62.1	91.2	100.4
117.5°	7.9	15.9	55.5	83.3	93.8
120°	6.6	10.6	48.9	75.3	85.9
122.5°	6.6	6.6	42.3	68.7	78.0
125°	5.3	4.0	37.0	62.1	70.0
127.5°	5.3	4.0	30.4	54.2	63.4
130°	4.0	2.6	23.8	47.6	55.5
132.5°	4.0	2.6	18.5	41.0	48.9
135°	2.6	2.6	11.9	33.0	41.0
137.5°	2.6	1.3	6.6	26.4	33.0
140°	2.6	1.3	2.6	19.8	26.4
142.5°	1.3	1.3	0.0	14.5	19.8
145°	1.3	0.0	0.0	7.9	13.2
147.5°	1.3	0.0	0.0	1.3	6.6
150°	1.3	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	17.96	19.48	18.44	19.95	20.45	19.51	21.03	19.99	21.50	22.00
	3H	19.60	20.99	20.09	21.46	22.00	21.82	23.21	22.31	23.68	24.22
	4H	20.16	21.48	20.67	21.97	22.52	22.88	24.19	23.39	24.69	25.24
	6H	20.55	21.77	21.07	22.28	22.85	23.93	25.16	24.45	25.66	26.23
	8H	20.65	21.83	21.19	22.36	22.93	24.45	25.62	24.98	26.15	26.72
	12H	20.71	21.84	21.26	22.36	22.97	25.00	26.13	25.54	26.65	27.25
4H	2H	18.80	20.12	19.32	20.61	21.17	20.01	21.33	20.52	21.82	22.37
	3H	20.69	21.81	21.21	22.34	22.91	22.54	23.66	23.06	24.19	24.77
	4H	21.39	22.41	21.93	22.96	23.57	23.76	24.78	24.30	25.33	25.93
	6H	21.91	22.81	22.47	23.38	24.00	24.99	25.89	25.55	26.46	27.08
	8H	22.06	22.91	22.63	23.48	24.12	25.60	26.45	26.17	27.02	27.65
	12H	22.16	22.93	22.76	23.53	24.17	26.26	27.03	26.85	27.63	28.27
8H	4H	21.97	22.82	22.54	23.39	24.02	24.01	24.86	24.58	25.43	26.06
	6H	22.66	23.38	23.26	23.99	24.63	25.40	26.12	26.00	26.73	27.37
	8H	22.92	23.56	23.53	24.19	24.84	26.14	26.79	26.76	27.41	28.07
	12H	23.10	23.68	23.72	24.29	25.01	26.97	27.55	27.58	28.16	28.88
12H	4H	22.11	22.88	22.70	23.48	24.11	24.03	24.80	24.62	25.40	26.04
	6H	22.88	23.52	23.49	24.15	24.80	25.45	26.10	26.07	26.72	27.38
	8H	23.21	23.79	23.83	24.40	25.12	26.26	26.84	26.88	27.45	28.17