

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: P242681

Luminaire Tested: S124DRP-S1195D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242681
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-S1195D840-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

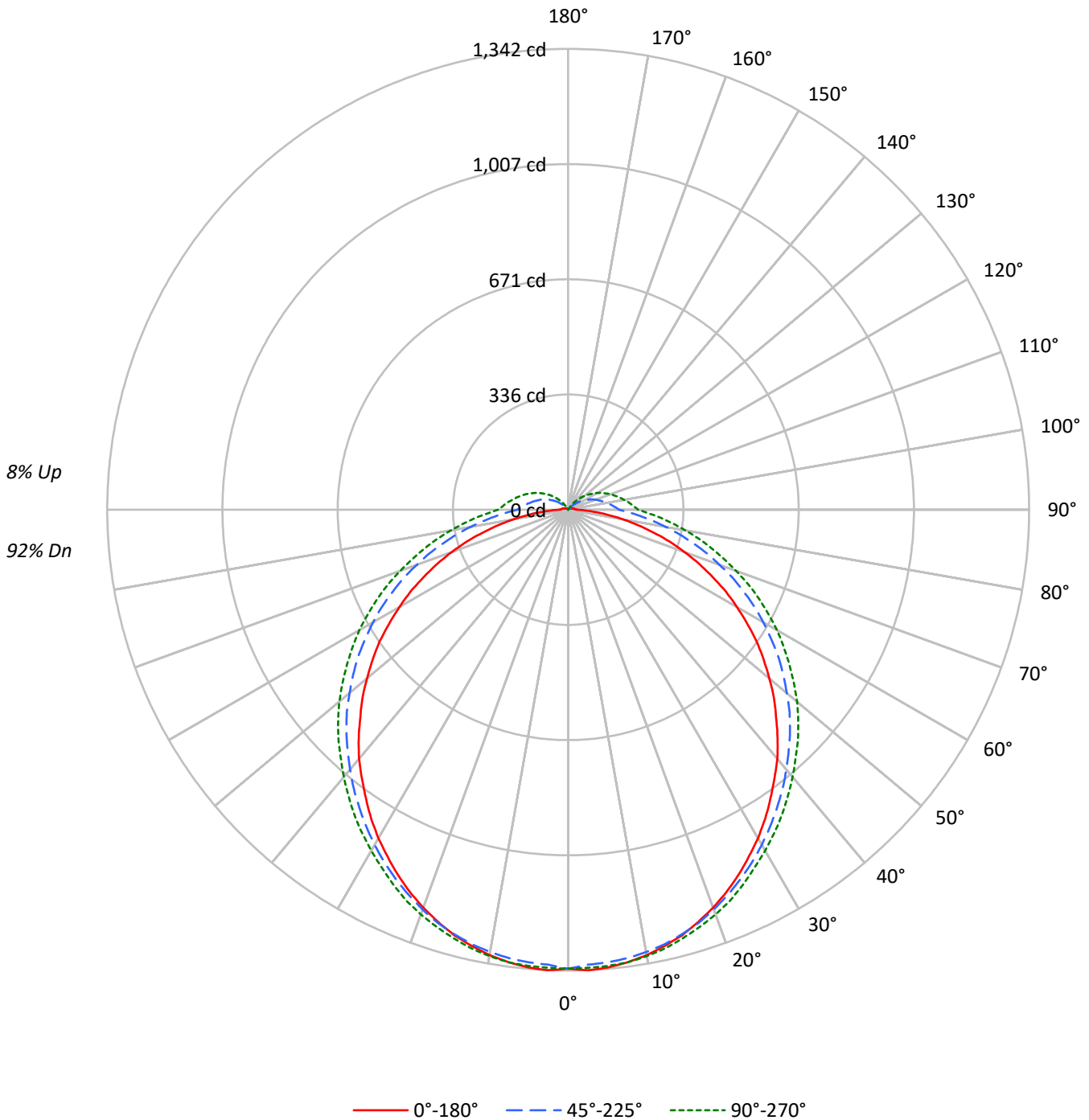
Lumens per Lamp: N/A
Luminaire Lumens: 4556.9 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 41.1
Input Voltage (V): 120
Input Current (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	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°	11881	11881	11881
5°	11916	11599	11628
10°	11843	11397	11380
15°	11736	11167	11093
20°	11576	10914	10814
25°	11394	10631	10510
30°	11199	10350	10198
35°	10976	10063	9922
40°	10798	9788	9637
45°	10535	9534	9388
50°	10312	9243	9125
55°	10081	8966	8819
60°	9721	8615	8537
65°	9329	8238	8191
70°	8851	7806	7791
75°	8183	7329	7419
80°	7441	6861	7044
85°	6492	6418	6788

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10535 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.6	2.8
10°-20°	362.8	8.0
20°-30°	548.6	12.0
30°-40°	663.7	14.6
40°-50°	701.7	15.4
50°-60°	660.4	14.5
60°-70°	548.0	12.0
70°-80°	384.6	8.4
80°-90°	216.8	4.8
90°-100°	129.1	2.8
100°-110°	95.6	2.1
110°-120°	64.1	1.4
120°-130°	36.1	0.8
130°-140°	15.6	0.3
140°-150°	3.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1038.1	22.8
0°-40°	1701.8	37.3
0°-60°	3063.9	67.2
0°-90°	4213.3	92.5
90°-120°	288.8	6.3
90°-150°	343.6	7.5
90°-180°	344.0	7.5
0°-180°	4556.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1337	1337	1337	1337	1337	
5°	1338	1334	1323	1335	1334	127
15°	1283	1284	1280	1293	1292	361
25°	1173	1182	1187	1203	1205	541
35°	1027	1045	1060	1081	1085	643
45°	856	884	913	938	946	662
55°	670	702	747	777	786	597
65°	464	512	563	600	612	460
75°	257	313	376	418	431	274
85°	79	142	210	254	269	83
90°	24	84	148	192	204	16
95°	20	69	130	171	184	16
105°	14	43	99	136	148	15
115°	9	22	70	103	114	10
125°	6	4	42	70	79	6
135°	3	3	14	37	46	3
145°	2	0	0	9	15	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°	1336.6	1336.6	1336.6	1336.6	1336.6
2.5°	1342.5	1338.0	1326.1	1336.6	1335.1
5°	1338.0	1333.6	1323.1	1335.1	1333.6
7.5°	1329.1	1326.1	1317.1	1330.6	1329.1
10°	1317.1	1315.6	1308.1	1321.6	1320.1
12.5°	1300.6	1300.6	1296.1	1308.1	1308.1
15°	1282.7	1284.2	1279.7	1293.1	1291.6
17.5°	1258.7	1263.2	1261.7	1275.2	1273.7
20°	1233.3	1237.8	1239.3	1254.2	1254.2
22.5°	1204.8	1210.8	1213.8	1228.8	1231.8
25°	1173.4	1182.4	1186.9	1203.3	1204.8
27.5°	1139.0	1152.5	1158.4	1173.4	1174.9
30°	1104.6	1116.5	1127.0	1143.5	1146.5
32.5°	1067.1	1082.1	1094.1	1113.5	1116.5
35°	1026.7	1044.7	1059.7	1080.6	1085.1
37.5°	986.3	1007.3	1025.2	1046.2	1050.7
40°	947.4	966.9	987.8	1010.3	1016.3
42.5°	902.5	925.0	950.4	975.8	980.3
45°	856.1	884.5	913.0	938.4	945.9
47.5°	812.7	841.1	874.1	899.5	908.5
50°	764.8	797.7	830.7	860.6	869.6
52.5°	716.9	749.8	788.8	818.7	827.7
55°	670.5	702.0	746.9	776.8	785.8
57.5°	618.1	657.0	700.5	736.4	743.9
60°	567.2	606.2	655.6	690.0	702.0
62.5°	517.9	561.3	610.7	645.1	657.0
65°	464.0	511.9	562.8	600.2	612.1
67.5°	413.1	464.0	517.9	555.3	567.2
70°	360.7	411.6	468.5	508.9	519.4
72.5°	309.8	362.2	423.6	462.5	474.5
75°	257.4	312.8	375.7	417.6	431.0
77.5°	208.0	266.4	332.3	374.2	389.1
80°	163.1	223.0	288.9	333.8	345.7
82.5°	118.2	181.1	247.0	293.4	306.8
85°	79.3	142.2	209.5	254.4	269.4
87.5°	49.4	110.8	176.6	220.0	233.5
90°	23.9	83.8	148.2	191.6	203.6
92.5°	22.5	74.8	139.2	181.1	193.1
95°	19.5	68.8	130.2	170.6	184.1
97.5°	18.0	61.4	122.7	161.6	175.1
100°	16.5	55.4	113.7	154.2	164.6
102.5°	16.5	49.4	106.3	145.2	157.2
105°	13.5	43.4	98.8	136.2	148.2
107.5°	13.5	38.9	91.3	128.7	139.2
110°	12.0	32.9	85.3	119.7	131.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	10.5	28.4	77.8	110.8	122.7
115°	9.0	22.5	70.3	103.3	113.7
117.5°	9.0	18.0	62.9	94.3	106.3
120°	7.5	12.0	55.4	85.3	97.3
122.5°	7.5	7.5	47.9	77.8	88.3
125°	6.0	4.5	41.9	70.3	79.3
127.5°	6.0	4.5	34.4	61.4	71.8
130°	4.5	3.0	26.9	53.9	62.9
132.5°	4.5	3.0	21.0	46.4	55.4
135°	3.0	3.0	13.5	37.4	46.4
137.5°	3.0	1.5	7.5	29.9	37.4
140°	3.0	1.5	3.0	22.5	29.9
142.5°	1.5	1.5	0.0	16.5	22.5
145°	1.5	0.0	0.0	9.0	15.0
147.5°	1.5	0.0	0.0	1.5	7.5
150°	1.5	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	18.39	19.91	18.87	20.38	20.88	19.94	21.47	20.42	21.93	22.43
	3H	20.03	21.42	20.52	21.89	22.43	22.25	23.64	22.74	24.11	24.65
	4H	20.60	21.91	21.11	22.40	22.96	23.31	24.62	23.82	25.12	25.67
	6H	20.98	22.20	21.50	22.71	23.28	24.36	25.59	24.89	26.09	26.66
	8H	21.08	22.26	21.62	22.79	23.36	24.88	26.05	25.42	26.58	27.16
	12H	21.14	22.27	21.69	22.79	23.40	25.43	26.56	25.98	27.08	27.69
4H	2H	19.24	20.55	19.75	21.05	21.60	20.44	21.76	20.95	22.25	22.80
	3H	21.12	22.24	21.64	22.77	23.35	22.97	24.09	23.49	24.63	25.20
	4H	21.82	22.85	22.37	23.39	24.00	24.19	25.21	24.73	25.76	26.36
	6H	22.34	23.24	22.90	23.81	24.43	25.42	26.32	25.98	26.89	27.51
	8H	22.50	23.34	23.06	23.92	24.55	26.03	26.88	26.60	27.45	28.08
	12H	22.60	23.37	23.19	23.97	24.60	26.69	27.46	27.28	28.06	28.70
8H	4H	22.40	23.25	22.97	23.82	24.46	24.44	25.29	25.01	25.86	26.50
	6H	23.10	23.81	23.70	24.43	25.07	25.84	26.55	26.44	27.17	27.81
	8H	23.35	23.99	23.96	24.62	25.27	26.58	27.22	27.19	27.85	28.50
	12H	23.53	24.11	24.15	24.72	25.44	27.40	27.98	28.02	28.59	29.31
12H	4H	22.54	23.31	23.13	23.91	24.55	24.46	25.23	25.05	25.83	26.47
	6H	23.31	23.96	23.92	24.58	25.23	25.89	26.53	26.50	27.16	27.81
	8H	23.65	24.22	24.26	24.84	25.55	26.69	27.27	27.31	27.88	28.60