

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: P243536

Luminaire Tested: S124DRP-H1195D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243536
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-H1195D835-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

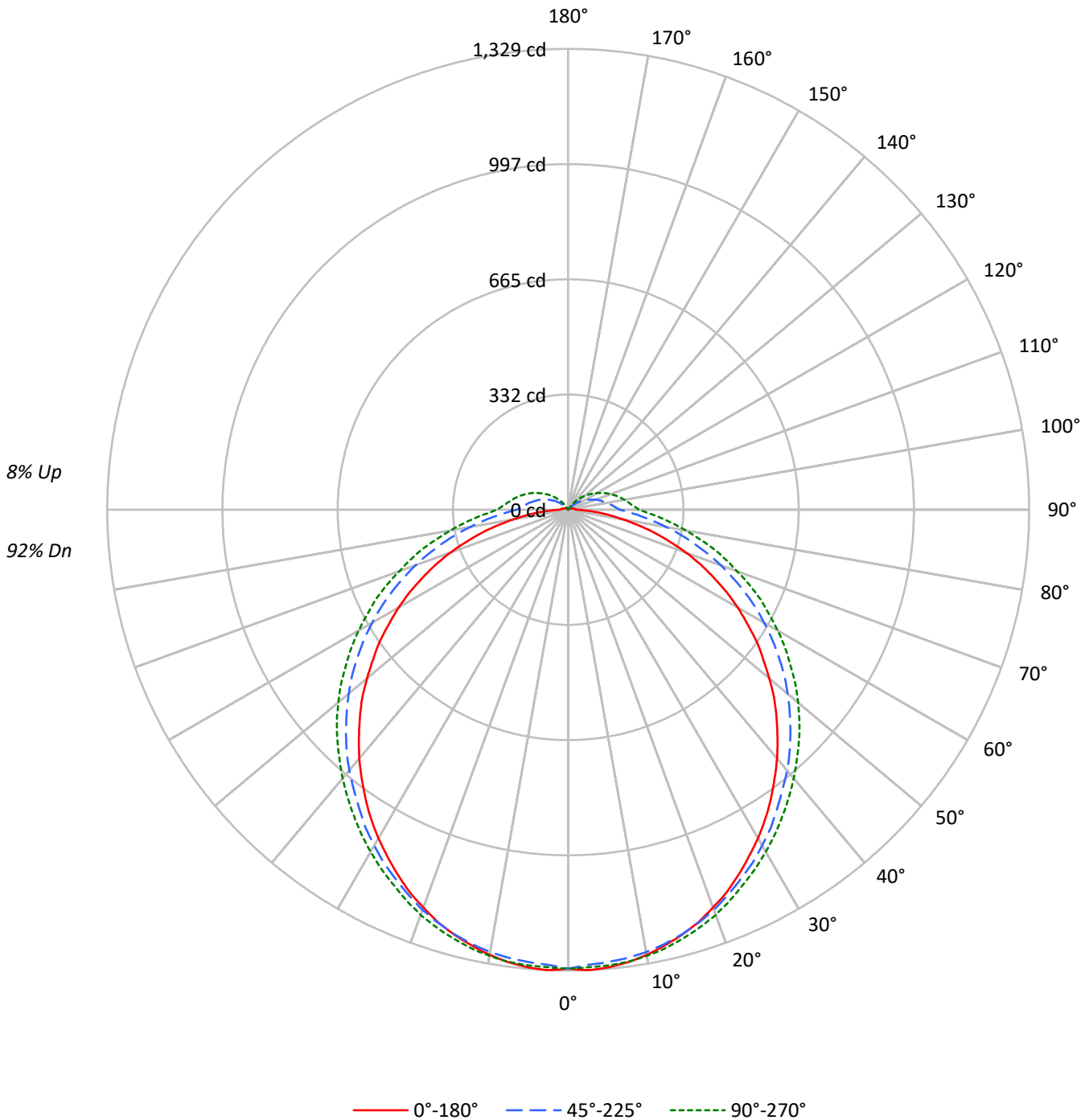
Lumens per Lamp: N/A
Luminaire Lumens: 4524.5 lumens
Efficiency: N/A
Efficacy: 120.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (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

TEST NUMBER: P243536

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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	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°	11765	11765	11765
5°	11801	11481	11504
10°	11725	11288	11265
15°	11609	11059	10994
20°	11459	10814	10721
25°	11283	10532	10405
30°	11094	10270	10135
35°	10887	9978	9853
40°	10678	9729	9590
45°	10455	9460	9339
50°	10204	9187	9078
55°	9982	8899	8778
60°	9668	8577	8485
65°	9305	8214	8188
70°	8871	7804	7764
75°	8183	7300	7457
80°	7250	6813	7021
85°	6566	6421	6770

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10455 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.3	2.8
10°-20°	359.3	7.9
20°-30°	543.9	12.0
30°-40°	658.6	14.6
40°-50°	696.6	15.4
50°-60°	656.2	14.5
60°-70°	545.3	12.1
70°-80°	383.3	8.5
80°-90°	215.9	4.8
90°-100°	128.1	2.8
100°-110°	94.8	2.1
110°-120°	63.3	1.4
120°-130°	35.7	0.8
130°-140°	15.3	0.3
140°-150°	2.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1028.5	22.7
0°-40°	1687.1	37.3
0°-60°	3039.9	67.2
0°-90°	4184.4	92.5
90°-120°	286.2	6.3
90°-150°	340.1	7.5
90°-180°	340.0	7.5
0°-180°	4524.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1325	1319	1310	1321	1319	126
15°	1269	1272	1267	1281	1280	358
25°	1162	1172	1176	1193	1193	535
35°	1018	1035	1051	1073	1078	637
45°	850	876	906	933	941	656
55°	664	699	741	774	782	592
65°	463	509	561	596	612	458
75°	257	312	374	416	433	273
85°	80	142	210	255	269	82
90°	24	83	149	190	204	16
95°	20	68	129	170	182	16
105°	14	44	98	135	148	15
115°	10	22	69	101	114	9
125°	6	4	41	69	79	6
135°	3	3	13	37	45	3
145°	1	0	0	8	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°	1323.6	1323.6	1323.6	1323.6	1323.6
2.5°	1329.3	1325.0	1313.8	1322.2	1320.8
5°	1325.0	1319.4	1309.6	1320.8	1319.4
7.5°	1316.6	1312.4	1303.9	1316.6	1315.2
10°	1303.9	1301.1	1295.5	1306.7	1306.7
12.5°	1287.1	1287.1	1282.8	1295.5	1295.5
15°	1268.8	1271.6	1267.4	1281.4	1280.0
17.5°	1247.7	1250.5	1249.1	1263.1	1263.1
20°	1220.9	1225.2	1228.0	1243.4	1243.4
22.5°	1194.2	1199.8	1202.7	1219.5	1219.5
25°	1161.9	1171.7	1175.9	1192.8	1192.8
27.5°	1128.1	1140.8	1149.2	1164.7	1167.5
30°	1094.3	1108.4	1118.3	1135.1	1139.4
32.5°	1057.8	1071.8	1087.3	1104.2	1109.8
35°	1018.4	1035.3	1050.7	1073.2	1077.5
37.5°	977.6	997.3	1015.6	1039.5	1045.1
40°	936.8	960.7	981.8	1004.3	1011.4
42.5°	893.2	917.1	945.2	969.2	976.2
45°	849.6	876.3	905.9	932.6	941.0
47.5°	806.0	834.1	866.5	894.6	904.5
50°	756.8	787.7	825.7	853.8	865.1
52.5°	708.9	742.7	784.9	813.0	825.7
55°	663.9	699.1	741.3	773.6	782.1
57.5°	611.9	651.3	697.7	732.8	741.3
60°	564.1	603.4	652.7	687.8	697.7
62.5°	514.8	557.0	607.7	642.8	652.7
65°	462.8	509.2	561.2	596.4	611.9
67.5°	412.1	458.6	513.4	552.8	565.5
70°	361.5	409.3	468.4	507.8	517.6
72.5°	308.0	360.1	420.6	461.4	475.4
75°	257.4	312.3	374.2	416.4	433.2
77.5°	208.2	265.9	330.6	374.2	385.4
80°	158.9	222.2	286.9	330.6	344.6
82.5°	119.6	178.6	246.2	292.6	303.8
85°	80.2	142.1	209.6	254.6	268.7
87.5°	47.8	111.1	175.8	218.0	232.1
90°	23.9	83.0	149.1	189.9	204.0
92.5°	21.1	74.6	137.8	178.6	192.7
95°	19.7	67.5	129.4	170.2	181.5
97.5°	18.3	61.9	121.0	160.4	173.0
100°	16.9	54.9	113.9	151.9	164.6
102.5°	15.5	49.2	105.5	143.5	156.1
105°	14.1	43.6	98.5	135.0	147.7
107.5°	12.7	38.0	91.4	126.6	139.3
110°	11.3	32.4	84.4	118.2	130.8



TEST NUMBER: P243536

CATALOG NUMBER: S124DRP-H1195D835-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	9.8	28.1	76.0	109.7	122.4
115°	9.8	22.5	68.9	101.3	113.9
117.5°	8.4	16.9	61.9	92.8	104.1
120°	8.4	12.7	54.9	84.4	95.6
122.5°	7.0	8.4	47.8	77.4	87.2
125°	5.6	4.2	40.8	68.9	78.8
127.5°	5.6	4.2	33.8	60.5	70.3
130°	4.2	4.2	26.7	52.0	61.9
132.5°	4.2	2.8	19.7	45.0	53.5
135°	2.8	2.8	12.7	36.6	45.0
137.5°	2.8	1.4	8.4	29.5	38.0
140°	2.8	1.4	2.8	22.5	29.5
142.5°	1.4	1.4	0.0	15.5	21.1
145°	1.4	0.0	0.0	8.4	14.1
147.5°	1.4	0.0	0.0	1.4	7.0
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	18.35	19.88	18.83	20.35	20.84	19.93	21.46	20.41	21.93	22.42
	3H	20.00	21.39	20.49	21.87	22.41	22.25	23.64	22.74	24.11	24.65
	4H	20.58	21.89	21.09	22.39	22.94	23.32	24.63	23.83	25.13	25.68
	6H	20.96	22.18	21.48	22.69	23.26	24.36	25.59	24.89	26.10	26.66
	8H	21.06	22.24	21.60	22.77	23.34	24.88	26.05	25.41	26.58	27.15
	12H	21.13	22.25	21.67	22.78	23.38	25.43	26.56	25.97	27.08	27.68
4H	2H	19.21	20.53	19.72	21.02	21.57	20.44	21.75	20.95	22.25	22.80
	3H	21.10	22.22	21.62	22.76	23.33	22.97	24.09	23.49	24.63	25.20
	4H	21.81	22.84	22.35	23.38	23.99	24.20	25.22	24.74	25.77	26.37
	6H	22.33	23.23	22.89	23.80	24.42	25.42	26.32	25.98	26.89	27.51
	8H	22.48	23.33	23.05	23.90	24.54	26.03	26.88	26.60	27.45	28.08
	12H	22.59	23.36	23.18	23.96	24.59	26.69	27.46	27.28	28.06	28.70
8H	4H	22.39	23.24	22.96	23.81	24.44	24.45	25.30	25.02	25.87	26.50
	6H	23.08	23.80	23.69	24.42	25.05	25.83	26.55	26.44	27.17	27.80
	8H	23.34	23.98	23.95	24.61	25.26	26.57	27.22	27.19	27.84	28.49
	12H	23.52	24.10	24.14	24.71	25.43	27.40	27.98	28.01	28.59	29.30
12H	4H	22.53	23.30	23.12	23.90	24.53	24.47	25.24	25.06	25.84	26.47
	6H	23.30	23.95	23.91	24.57	25.22	25.88	26.53	26.50	27.16	27.81
	8H	23.63	24.21	24.25	24.82	25.54	26.69	27.27	27.30	27.88	28.60