

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P242675

Luminaire Tested: **S124DR-S1020D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242675  
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 (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DR-S1020D835-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3882.6 lumens  
Efficiency: N/A  
Efficacy: 111.6 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

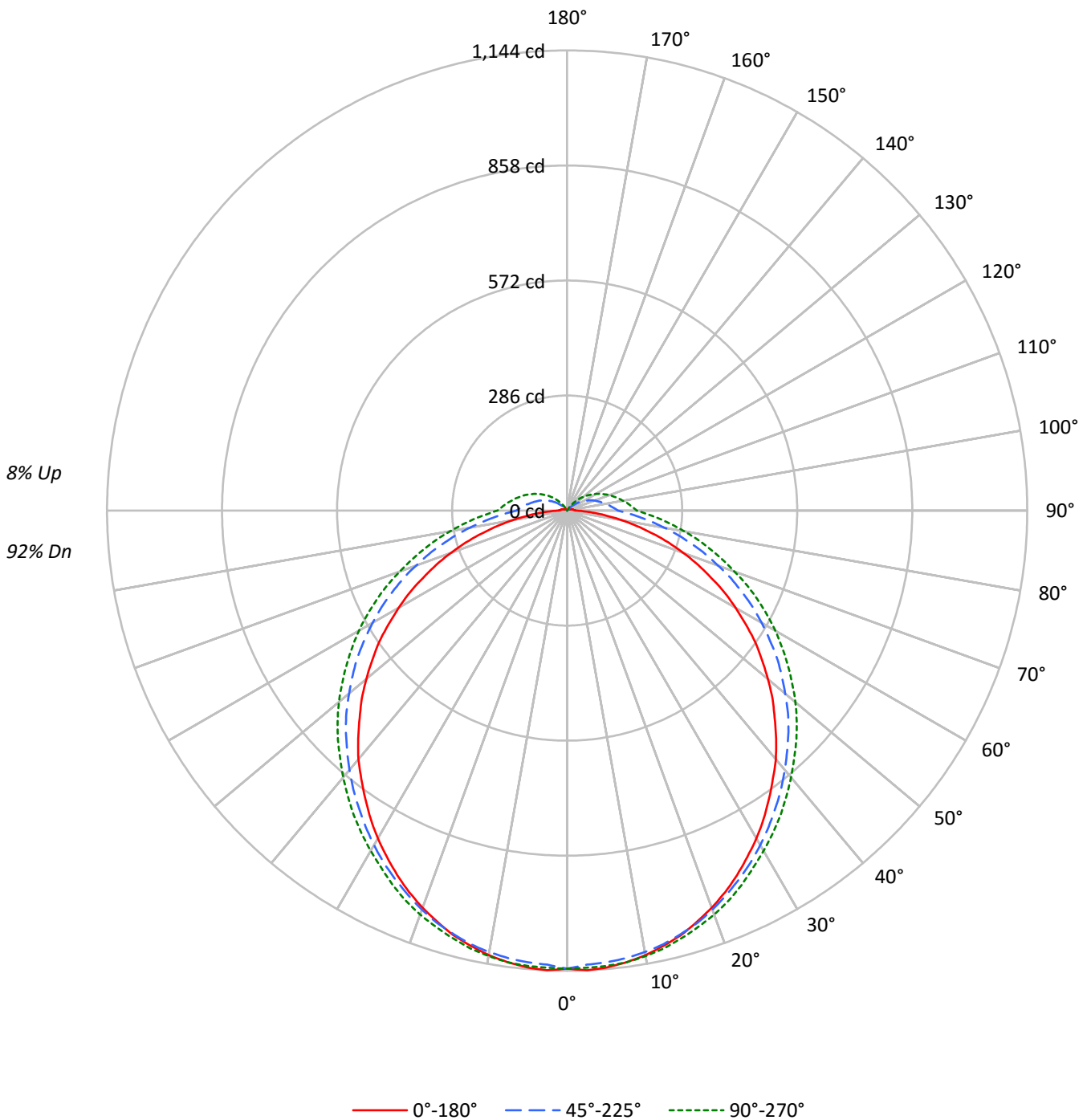
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242675

CATALOG NUMBER: S124DR-S1020D835-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242675

CATALOG NUMBER: S124DR-S1020D835-X4F0-XX-UDD-D-W

**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°	10123	10123	10123
5°	10154	9883	9907
10°	10091	9712	9697
15°	10000	9514	9452
20°	9863	9299	9215
25°	9709	9058	8955
30°	9541	8819	8688
35°	9352	8574	8455
40°	9200	8341	8210
45°	8976	8124	7999
50°	8787	7876	7775
55°	8590	7638	7514
60°	8283	7340	7274
65°	7948	7018	6980
70°	7541	6651	6637
75°	6972	6245	6323
80°	6342	5844	6003
85°	5534	5469	5782



TEST NUMBER: P242675

CATALOG NUMBER: S124DR-S1020D835-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.9	2.8
10°-20°	309.2	8.0
20°-30°	467.5	12.0
30°-40°	565.5	14.6
40°-50°	597.9	15.4
50°-60°	562.7	14.5
60°-70°	466.9	12.0
70°-80°	327.7	8.4
80°-90°	184.7	4.8
90°-100°	110.0	2.8
100°-110°	81.4	2.1
110°-120°	54.6	1.4
120°-130°	30.8	0.8
130°-140°	13.3	0.3
140°-150°	2.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	884.5	22.8
0°-40°	1450.0	37.3
0°-60°	2610.6	67.2
0°-90°	3589.8	92.5
90°-120°	246.1	6.3
90°-150°	292.8	7.5
90°-180°	293.0	7.5
0°-180°	3882.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1140	1136	1127	1138	1136	108
15°	1093	1094	1090	1102	1100	308
25°	1000	1007	1011	1025	1027	461
35°	875	890	903	921	925	548
45°	729	754	778	800	806	564
55°	571	598	636	662	670	509
65°	395	436	480	511	522	392
75°	219	266	320	356	367	233
85°	68	121	178	217	230	70
90°	20	71	126	163	173	14
95°	17	59	111	145	157	13
105°	12	37	84	116	126	13
115°	8	19	60	88	97	8
125°	5	4	36	60	68	5
135°	3	3	12	32	40	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



TEST NUMBER: P242675

CATALOG NUMBER: S124DR-S1020D835-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1138.8	1138.8	1138.8	1138.8	1138.8
2.5°	1143.9	1140.1	1129.9	1138.8	1137.5
5°	1140.1	1136.2	1127.3	1137.5	1136.2
7.5°	1132.4	1129.9	1122.2	1133.7	1132.4
10°	1122.2	1120.9	1114.6	1126.0	1124.8
12.5°	1108.2	1108.2	1104.4	1114.6	1114.6
15°	1092.9	1094.2	1090.3	1101.8	1100.5
17.5°	1072.5	1076.3	1075.0	1086.5	1085.2
20°	1050.8	1054.6	1055.9	1068.7	1068.7
22.5°	1026.6	1031.7	1034.2	1047.0	1049.5
25°	999.8	1007.4	1011.3	1025.3	1026.6
27.5°	970.5	981.9	987.0	999.8	1001.1
30°	941.1	951.3	960.3	974.3	976.8
32.5°	909.2	922.0	932.2	948.8	951.3
35°	874.8	890.1	902.9	920.7	924.6
37.5°	840.4	858.2	873.5	891.4	895.2
40°	807.2	823.8	841.7	860.8	865.9
42.5°	769.0	788.1	809.8	831.5	835.3
45°	729.4	753.7	777.9	799.6	806.0
47.5°	692.5	716.7	744.7	766.4	774.1
50°	651.7	679.7	707.8	733.3	740.9
52.5°	610.8	638.9	672.1	697.6	705.2
55°	571.3	598.1	636.3	661.9	669.5
57.5°	526.7	559.8	596.8	627.4	633.8
60°	483.3	516.5	558.6	587.9	598.1
62.5°	441.2	478.2	520.3	549.6	559.8
65°	395.3	436.1	479.5	511.4	521.6
67.5°	352.0	395.3	441.2	473.1	483.3
70°	307.3	350.7	399.2	433.6	442.5
72.5°	264.0	308.6	360.9	394.1	404.3
75°	219.3	266.5	320.1	355.8	367.3
77.5°	177.3	227.0	283.1	318.8	331.6
80°	139.0	190.0	246.1	284.4	294.6
82.5°	100.7	154.3	210.4	249.9	261.4
85°	67.6	121.1	178.5	216.8	229.5
87.5°	42.1	94.4	150.5	187.5	198.9
90°	20.4	71.4	126.2	163.2	173.4
92.5°	19.1	63.8	118.6	154.3	164.5
95°	16.6	58.7	110.9	145.4	156.9
97.5°	15.3	52.3	104.6	137.7	149.2
100°	14.0	47.2	96.9	131.4	140.3
102.5°	14.0	42.1	90.5	123.7	133.9
105°	11.5	37.0	84.2	116.0	126.2
107.5°	11.5	33.2	77.8	109.7	118.6
110°	10.2	28.1	72.7	102.0	112.2



TEST NUMBER: P242675

CATALOG NUMBER: S124DR-S1020D835-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	8.9	24.2	66.3	94.4	104.6
115°	7.7	19.1	59.9	88.0	96.9
117.5°	7.7	15.3	53.6	80.3	90.5
120°	6.4	10.2	47.2	72.7	82.9
122.5°	6.4	6.4	40.8	66.3	75.2
125°	5.1	3.8	35.7	59.9	67.6
127.5°	5.1	3.8	29.3	52.3	61.2
130°	3.8	2.6	23.0	45.9	53.6
132.5°	3.8	2.6	17.9	39.5	47.2
135°	2.6	2.6	11.5	31.9	39.5
137.5°	2.6	1.3	6.4	25.5	31.9
140°	2.6	1.3	2.6	19.1	25.5
142.5°	1.3	1.3	0.0	14.0	19.1
145°	1.3	0.0	0.0	7.7	12.8
147.5°	1.3	0.0	0.0	1.3	6.4
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

(END OF REPORT)