

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: P242509

Luminaire Tested: **S123DR-S1165D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242509
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DR-S1165D840-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4617.7 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

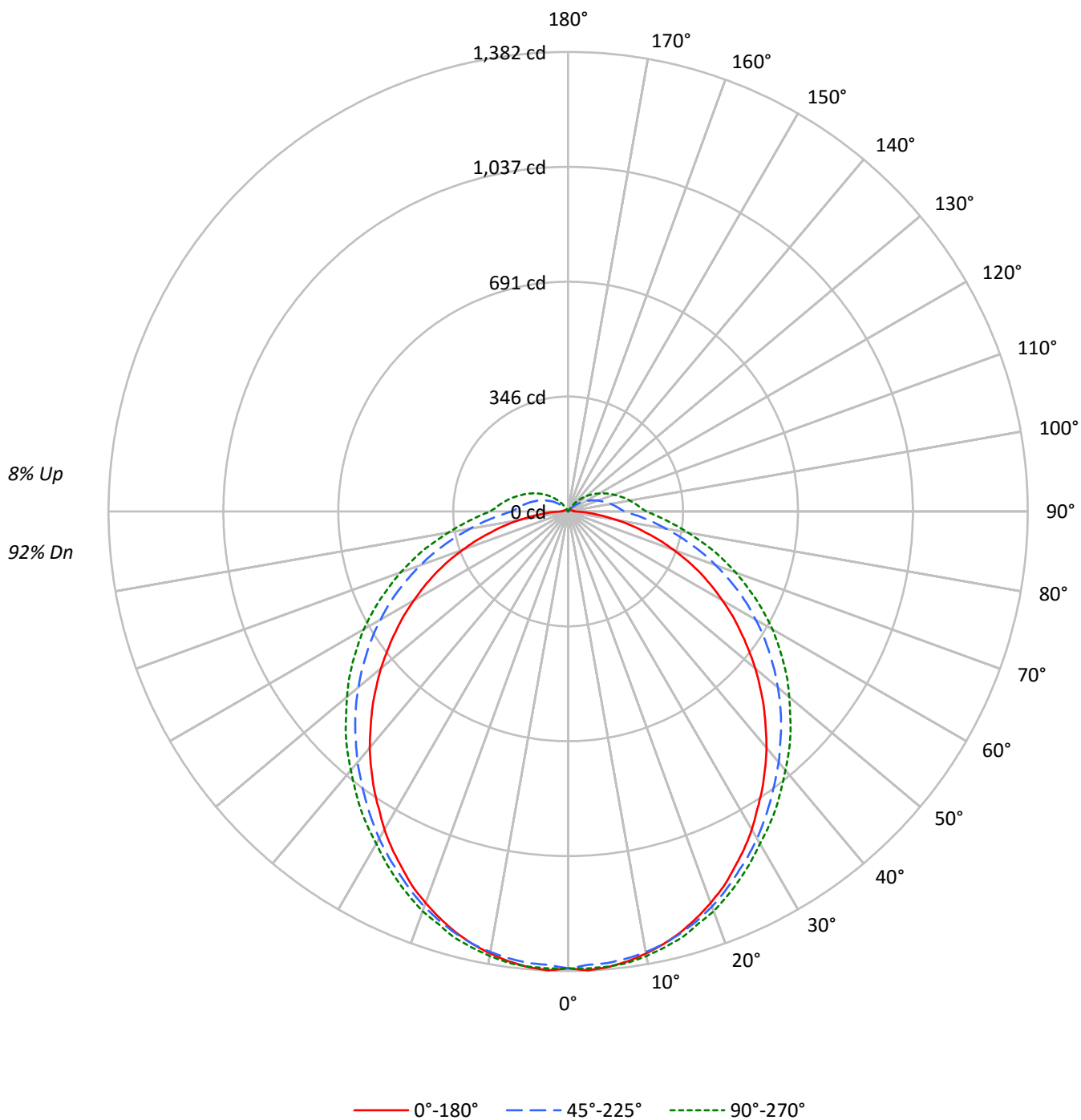
Input Watts (W): 41.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16655	16655	16655
5°	16705	16204	16203
10°	16553	15802	15702
15°	16340	15351	15164
20°	16033	14842	14578
25°	15657	14262	13966
30°	15271	13740	13349
35°	14837	13188	12851
40°	14424	12684	12322
45°	13965	12200	11891
50°	13512	11720	11421
55°	13011	11227	10993
60°	12523	10725	10552
65°	12022	10191	10033
70°	11270	9589	9499
75°	10318	8900	8951
80°	9220	8211	8325
85°	8183	7693	7914

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.3	2.8
10°-20°	371.6	8.0
20°-30°	555.6	12.0
30°-40°	663.4	14.4
40°-50°	694.1	15.0
50°-60°	651.4	14.1
60°-70°	544.1	11.8
70°-80°	389.0	8.4
80°-90°	231.5	5.0
90°-100°	145.5	3.2
100°-110°	106.9	2.3
110°-120°	71.4	1.5
120°-130°	40.7	0.9
130°-140°	18.3	0.4
140°-150°	3.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1057.5	22.9
0°-40°	1720.9	37.3
0°-60°	3066.4	66.4
0°-90°	4231.0	91.6
90°-120°	323.8	7.0
90°-150°	386.6	8.4
90°-180°	387.0	8.4
0°-180°	4617.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1374	1374	1374	1374	1374	
5°	1376	1372	1364	1376	1374	130
15°	1310	1314	1313	1328	1326	369
25°	1182	1197	1202	1221	1221	545
35°	1018	1042	1061	1084	1090	637
45°	832	868	906	934	946	642
55°	635	684	738	778	790	568
65°	438	497	563	608	623	433
75°	238	308	383	432	450	254
85°	73	148	228	278	293	76
90°	20	93	169	220	235	14
95°	16	75	148	195	210	13
105°	12	48	112	154	168	12
115°	8	25	79	115	127	8
125°	4	4	48	79	90	5
135°	3	2	18	45	52	2
145°	2	0	0	12	18	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°	1374.0	1374.0	1374.0	1374.0	1374.0
2.5°	1381.5	1377.0	1365.0	1377.0	1375.5
5°	1375.5	1372.5	1363.5	1375.5	1374.0
7.5°	1365.0	1365.0	1356.0	1371.0	1369.5
10°	1350.0	1353.0	1345.5	1360.5	1357.5
12.5°	1332.1	1336.6	1332.1	1345.5	1342.5
15°	1309.6	1314.1	1312.6	1327.6	1326.1
17.5°	1282.7	1291.7	1290.2	1303.6	1300.6
20°	1252.7	1261.7	1264.7	1278.2	1279.7
22.5°	1221.3	1230.3	1234.8	1252.7	1251.2
25°	1182.4	1197.4	1201.8	1221.3	1221.3
27.5°	1145.0	1161.4	1170.4	1186.9	1188.4
30°	1104.6	1124.0	1136.0	1154.0	1154.0
32.5°	1059.7	1082.1	1098.6	1118.0	1122.5
35°	1017.8	1041.7	1061.2	1083.6	1089.6
37.5°	972.9	999.8	1022.2	1047.7	1052.2
40°	928.0	954.9	984.8	1010.3	1016.3
42.5°	878.6	913.0	944.4	972.9	981.8
45°	832.2	868.1	905.5	933.9	945.9
47.5°	782.8	823.2	865.1	896.5	905.5
50°	734.9	776.8	823.2	857.6	868.1
52.5°	684.0	728.9	781.3	817.2	830.7
55°	634.6	684.0	737.9	778.3	790.3
57.5°	586.7	637.6	696.0	736.4	749.8
60°	535.8	589.7	651.1	693.0	709.4
62.5°	487.9	543.3	609.2	651.1	666.0
65°	438.5	496.9	562.8	607.7	622.6
67.5°	389.1	450.5	516.4	565.8	577.7
70°	336.8	401.1	473.0	520.9	535.8
72.5°	288.9	353.2	428.1	477.4	492.4
75°	238.0	308.3	383.2	432.5	450.5
77.5°	194.6	264.9	339.8	392.1	405.6
80°	148.2	221.5	299.3	350.2	365.2
82.5°	107.8	182.6	261.9	312.8	327.8
85°	73.3	148.2	227.5	278.4	293.4
87.5°	44.9	119.7	196.1	247.0	261.9
90°	19.5	92.8	169.1	220.0	235.0
92.5°	18.0	82.3	157.2	206.5	220.0
95°	16.5	74.8	148.2	194.6	209.5
97.5°	15.0	68.8	139.2	184.1	199.1
100°	13.5	61.4	130.2	173.6	188.6
102.5°	12.0	53.9	121.2	163.1	178.1
105°	12.0	47.9	112.3	154.2	167.6
107.5°	10.5	41.9	103.3	143.7	157.2
110°	9.0	35.9	95.8	134.7	146.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	9.0	29.9	86.8	124.2	137.7
115°	7.5	25.4	79.3	115.2	127.2
117.5°	7.5	19.5	70.3	106.3	118.2
120°	6.0	13.5	62.9	97.3	107.8
122.5°	6.0	9.0	55.4	88.3	98.8
125°	4.5	4.5	47.9	79.3	89.8
127.5°	4.5	3.0	40.4	70.3	80.8
130°	4.5	3.0	32.9	61.4	70.3
132.5°	3.0	3.0	25.4	52.4	62.9
135°	3.0	1.5	18.0	44.9	52.4
137.5°	3.0	1.5	12.0	35.9	43.4
140°	1.5	1.5	6.0	28.4	35.9
142.5°	1.5	0.0	0.0	19.5	26.9
145°	1.5	0.0	0.0	12.0	18.0
147.5°	0.0	0.0	0.0	4.5	10.5
150°	0.0	0.0	0.0	0.0	3.0
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)