

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: P242157

Luminaire Tested: **S121DR-S305D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242157
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S305D835-X4F0-XX-UDD-D-W
Description: DEFINE 1 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: 1193.1 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

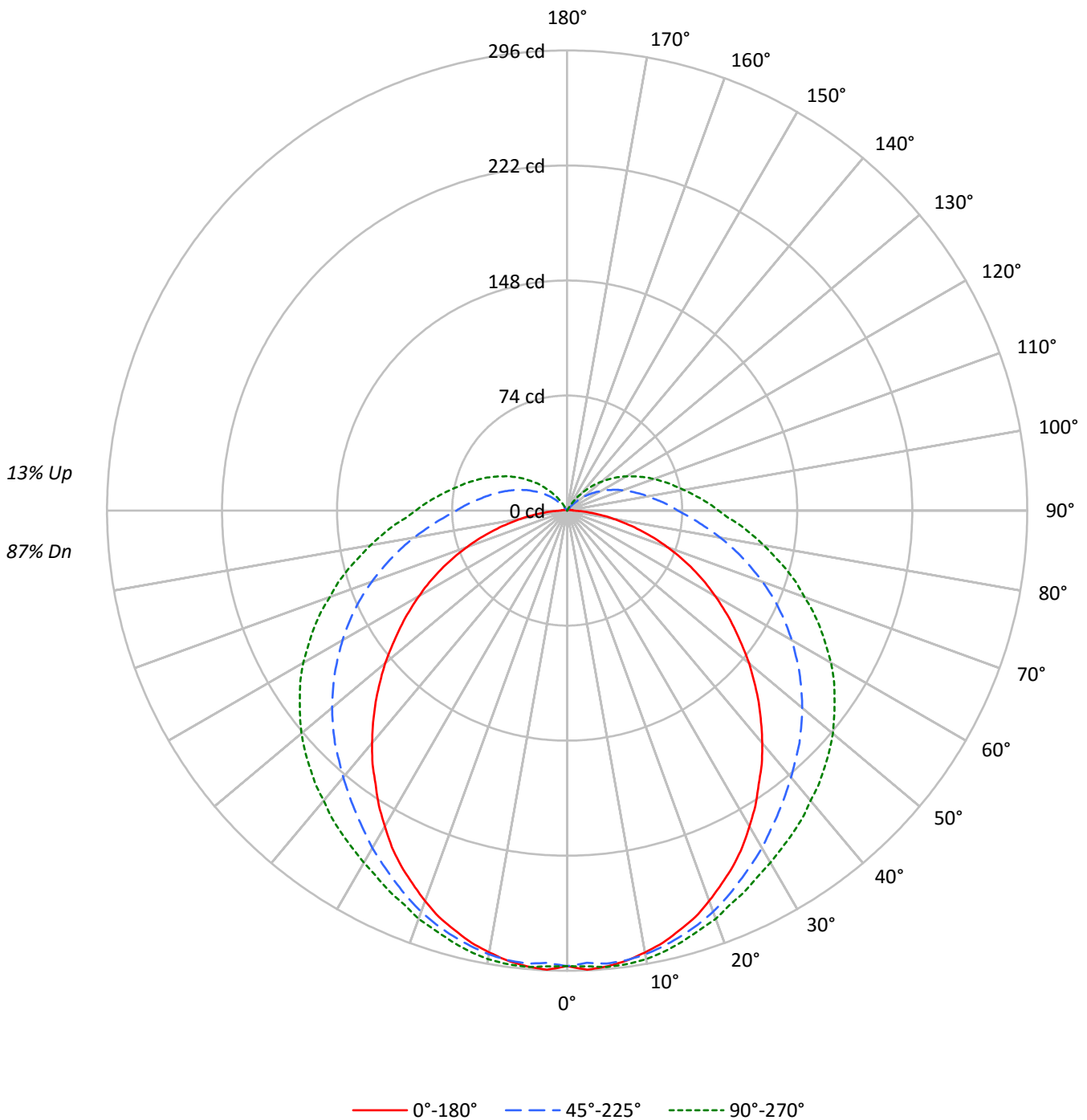
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	28	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8682	8682	8682
5°	8737	8236	8133
10°	8650	7833	7621
15°	8521	7414	7108
20°	8360	7015	6656
25°	8170	6608	6247
30°	7925	6251	5913
35°	7654	5912	5645
40°	7416	5625	5397
45°	7146	5387	5191
50°	6867	5149	4994
55°	6566	4912	4780
60°	6284	4674	4574
65°	5998	4436	4340
70°	5603	4180	4087
75°	5140	3923	3866
80°	4578	3669	3627
85°	3930	3429	3418



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.0	2.3
10°-20°	80.2	6.7
20°-30°	121.3	10.2
30°-40°	148.3	12.4
40°-50°	161.0	13.5
50°-60°	158.9	13.3
60°-70°	142.6	12.0
70°-80°	114.8	9.6
80°-90°	82.9	6.9
90°-100°	59.3	5.0
100°-110°	42.4	3.6
110°-120°	28.3	2.4
120°-130°	16.3	1.4
130°-140°	7.3	0.6
140°-150°	1.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	229.5	19.2
0°-40°	377.8	31.7
0°-60°	697.7	58.5
0°-90°	1037.9	87.0
90°-120°	130.0	10.9
90°-150°	155.1	13.0
90°-180°	155.0	13.0
0°-180°	1193.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	293	293	293	293	293	
5°	294	294	292	295	295	28
15°	279	283	283	287	287	79
25°	252	259	263	269	270	116
35°	215	227	237	249	253	135
45°	174	190	211	228	234	134
55°	131	154	182	204	210	117
65°	90	118	151	173	180	89
75°	48	81	117	139	146	51
85°	14	49	84	106	112	15
90°	4	37	71	91	97	3
95°	3	29	62	81	86	2
105°	2	18	45	62	68	2
115°	1	9	31	47	52	1
125°	1	1	19	32	37	1
135°	0	0	7	18	22	0
145°	0	0	0	5	7	0
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°	293.0	293.0	293.0	293.0	293.0
2.5°	295.6	294.3	291.2	294.3	293.4
5°	294.3	293.8	292.5	295.2	294.7
7.5°	292.1	293.0	291.7	295.2	294.3
10°	288.6	290.8	289.9	293.4	293.0
12.5°	284.7	287.3	286.9	290.8	290.4
15°	279.4	283.4	283.4	287.3	286.9
17.5°	274.2	278.1	279.4	283.8	282.9
20°	267.2	272.5	274.6	278.6	279.4
22.5°	259.8	266.3	269.0	273.8	274.2
25°	252.4	258.9	262.8	269.0	270.3
27.5°	244.1	251.5	256.7	263.7	265.5
30°	234.5	243.6	250.6	258.5	261.5
32.5°	225.3	235.3	243.6	254.1	257.2
35°	214.8	226.6	237.1	248.9	253.2
37.5°	205.6	217.9	230.5	244.1	248.9
40°	195.2	208.3	224.0	238.8	243.6
42.5°	184.7	199.5	217.4	234.0	239.3
45°	174.2	189.9	211.3	228.4	234.0
47.5°	163.3	181.2	204.3	222.7	228.8
50°	152.8	172.0	197.4	216.6	223.1
52.5°	141.5	162.9	189.9	210.0	216.6
55°	131.0	153.7	182.5	203.5	210.0
57.5°	120.5	144.5	174.6	196.0	203.5
60°	110.0	135.4	166.8	188.6	196.0
62.5°	100.0	126.6	158.9	181.2	187.7
65°	89.5	117.9	150.6	172.9	179.9
67.5°	79.0	108.7	142.3	164.6	171.6
70°	68.5	99.1	133.6	156.3	162.4
72.5°	58.5	90.4	124.9	148.0	154.6
75°	48.5	81.2	116.6	138.8	145.8
77.5°	38.9	72.5	108.3	130.6	136.7
80°	30.1	63.7	100.0	122.3	128.4
82.5°	21.8	56.3	91.7	113.5	120.1
85°	14.4	48.9	84.3	105.7	112.2
87.5°	8.7	42.4	77.3	98.2	103.5
90°	3.9	36.7	71.2	91.3	97.4
92.5°	3.5	32.7	66.4	86.5	92.1
95°	3.1	29.3	61.6	81.2	86.5
97.5°	2.6	25.8	56.8	76.0	81.2
100°	2.2	22.7	52.8	71.2	76.4
102.5°	2.2	20.1	48.9	66.4	71.6
105°	1.7	17.5	45.0	62.4	67.7
107.5°	1.7	15.3	41.5	58.5	63.3
110°	1.7	13.1	38.0	54.6	59.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	10.9	34.9	50.6	55.5
115°	1.3	8.7	31.4	46.7	51.5
117.5°	1.3	6.5	28.4	43.2	47.6
120°	0.9	4.8	24.9	39.7	44.1
122.5°	0.9	3.1	22.3	35.8	40.2
125°	0.9	1.3	19.2	32.3	36.7
127.5°	0.9	0.4	16.2	28.8	32.7
130°	0.4	0.4	13.5	25.3	28.8
132.5°	0.4	0.4	10.5	21.8	25.8
135°	0.4	0.4	7.4	18.3	21.8
137.5°	0.4	0.0	4.8	14.8	17.9
140°	0.4	0.0	2.6	11.8	14.4
142.5°	0.4	0.0	0.4	8.3	11.4
145°	0.0	0.0	0.0	5.2	7.4
147.5°	0.0	0.0	0.0	2.2	4.4
150°	0.0	0.0	0.0	0.0	1.3
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)