

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P929800

Luminaire Tested: DFN2DS-4P2F0-020DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929800
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P2F0-020DS935-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

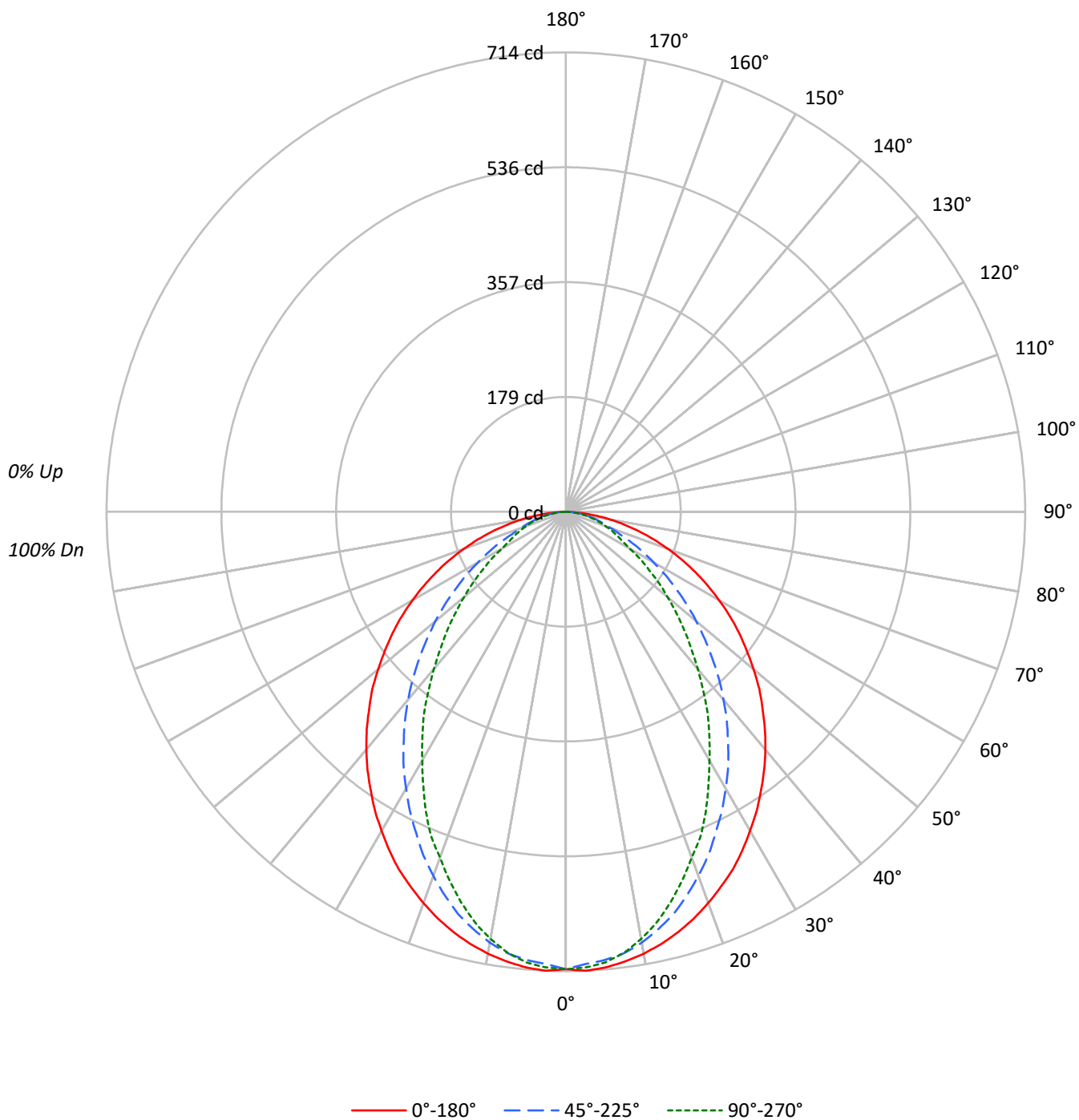
Lumens per Lamp: N/A
Luminaire Lumens: 1462.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1780	1780	1780
5°	1787	1758	1767
10°	1773	1729	1714
15°	1753	1678	1630
20°	1725	1605	1524
25°	1696	1521	1422
30°	1656	1436	1291
35°	1616	1343	1176
40°	1577	1247	1043
45°	1531	1139	922
50°	1484	1030	805
55°	1435	913	691
60°	1379	789	574
65°	1315	664	523
70°	1239	546	480
75°	1145	497	449
80°	1011	446	408
85°	793	351	351

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1531 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.6	4.6
10°-20°	182.9	12.5
20°-30°	256.8	17.6
30°-40°	279.9	19.1
40°-50°	257.3	17.6
50°-60°	202.1	13.8
60°-70°	131.5	9.0
70°-80°	67.7	4.6
80°-90°	17.3	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	506.3	34.6
0°-40°	786.2	53.8
0°-60°	1245.5	85.2
0°-90°	1462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	711	708	699	705	703	67
15°	676	669	647	635	629	191
25°	614	593	551	524	515	282
35°	529	496	440	399	385	331
45°	432	389	322	276	260	334
55°	329	279	209	170	158	294
65°	222	170	112	90	88	220
75°	118	73	51	47	46	125
85°	28	14	12	12	12	33
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	710.9	710.9	710.9	710.9	710.9
2.5°	714.1	710.9	703.7	710.3	709.0
5°	710.9	707.7	699.3	705.1	703.1
7.5°	705.1	701.2	692.2	694.8	691.5
10°	697.4	692.8	680.0	678.0	674.2
12.5°	687.7	681.9	664.5	660.7	653.6
15°	676.1	669.0	647.2	634.9	628.6
17.5°	662.6	652.3	625.3	611.1	600.9
20°	647.2	634.2	602.2	586.1	571.9
22.5°	630.5	615.7	578.4	556.5	546.9
25°	613.8	593.1	550.7	524.3	514.6
27.5°	593.8	571.9	524.9	494.7	479.9
30°	572.6	548.1	496.6	463.9	446.4
32.5°	551.9	522.4	469.6	431.0	415.0
35°	528.8	496.0	439.5	398.9	384.7
37.5°	506.3	470.8	411.1	366.7	350.6
40°	482.5	443.9	381.5	335.8	319.1
42.5°	458.0	416.9	351.9	304.3	288.3
45°	432.3	389.2	321.7	276.0	260.5
47.5°	407.9	362.2	292.7	247.0	232.9
50°	380.9	335.2	264.4	220.0	206.6
52.5°	354.4	306.2	237.4	195.0	182.8
55°	328.7	278.6	209.1	170.5	158.2
57.5°	302.4	250.9	184.0	148.0	137.7
60°	275.4	223.9	157.6	124.9	114.6
62.5°	249.0	197.5	135.1	104.2	99.1
65°	222.0	169.8	112.0	90.1	88.2
67.5°	196.3	144.0	90.1	79.1	77.2
70°	169.2	119.0	74.6	68.2	65.6
72.5°	143.4	95.8	62.4	57.3	56.0
75°	118.3	73.3	51.4	47.0	46.4
77.5°	93.3	52.1	40.5	37.9	36.6
80°	70.1	37.3	30.9	28.3	28.3
82.5°	48.8	25.1	21.2	20.0	20.0
85°	27.6	14.1	12.2	12.2	12.2
87.5°	10.3	5.2	5.2	4.5	4.5
90°	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	13.24	14.76	13.60	15.07	15.39	9.20	10.72	9.56	11.04	11.35
	3H	15.00	16.37	15.38	16.70	17.06	10.46	11.83	10.84	12.16	12.52
	4H	15.67	16.95	16.07	17.30	17.68	10.97	12.25	11.37	12.60	12.98
	6H	16.16	17.34	16.57	17.71	18.10	11.35	12.53	11.76	12.90	13.29
	8H	16.32	17.45	16.75	17.84	18.24	11.47	12.60	11.90	12.99	13.39
	12H	16.43	17.50	16.86	17.89	18.32	11.55	12.63	11.98	13.01	13.44
4H	2H	13.34	14.62	13.74	14.97	15.35	9.90	11.18	10.30	11.53	11.90
	3H	15.28	16.34	15.69	16.74	17.14	11.34	12.40	11.75	12.80	13.20
	4H	16.02	16.98	16.46	17.40	17.83	11.94	12.90	12.37	13.31	13.75
	6H	16.62	17.45	17.07	17.89	18.35	12.43	13.26	12.88	13.70	14.16
	8H	16.83	17.61	17.29	18.05	18.52	12.59	13.37	13.05	13.81	14.28
	12H	16.98	17.68	17.47	18.16	18.63	12.71	13.40	13.19	13.88	14.35
8H	4H	16.05	16.83	16.51	17.27	17.74	12.29	13.07	12.76	13.51	13.98
	6H	16.69	17.33	17.18	17.82	18.30	12.88	13.52	13.37	14.01	14.49
	8H	16.94	17.51	17.45	18.02	18.51	13.10	13.68	13.61	14.19	14.67
	12H	17.14	17.65	17.65	18.14	18.71	13.28	13.79	13.79	14.28	14.85
12H	4H	16.03	16.73	16.51	17.21	17.68	12.34	13.03	12.82	13.51	13.98
	6H	16.67	17.24	17.18	17.75	18.24	12.94	13.52	13.45	14.03	14.52
	8H	16.95	17.46	17.46	17.95	18.52	13.21	13.72	13.72	14.22	14.78

END OF REPORT