

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: P929858

Luminaire Tested: DFN2DS-4P3F0-020DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929858
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-4P3F0-020DS950-RLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

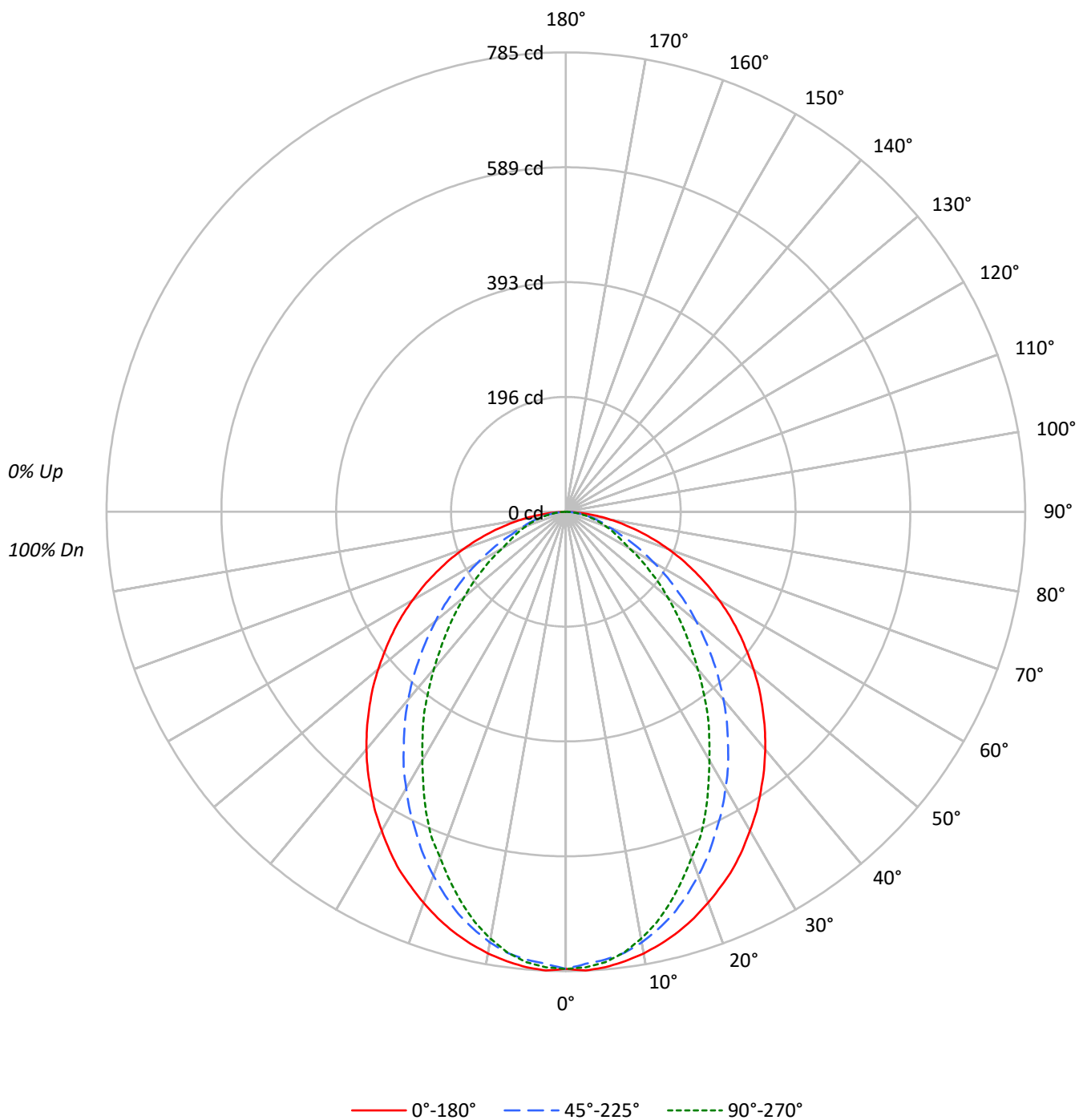
Lumens per Lamp: N/A
Luminaire Lumens: 1606.5 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 18.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	890	890	890
5°	894	879	884
10°	887	865	857
15°	877	839	815
20°	862	802	762
25°	848	761	711
30°	828	718	645
35°	808	672	588
40°	789	624	522
45°	766	570	461
50°	742	515	402
55°	718	456	346
60°	690	395	287
65°	658	332	261
70°	619	273	240
75°	572	249	224
80°	505	222	204
85°	396	175	175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 766 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	4.6
10°-20°	201.0	12.5
20°-30°	282.2	17.6
30°-40°	307.6	19.1
40°-50°	282.7	17.6
50°-60°	222.0	13.8
60°-70°	144.5	9.0
70°-80°	74.4	4.6
80°-90°	19.0	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°	556.3	34.6
0°-40°	863.9	53.8
0°-60°	1368.6	85.2
0°-90°	1606.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1606.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	781	781	781	781	781	
5°	781	778	768	775	773	74
15°	743	735	711	698	691	209
25°	674	652	605	576	566	310
35°	581	545	483	438	423	364
45°	475	428	354	303	286	367
55°	361	306	230	187	174	323
65°	244	187	123	99	97	242
75°	130	80	56	52	51	138
85°	30	16	13	13	13	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	781.1	781.1	781.1	781.1	781.1
2.5°	784.6	781.1	773.3	780.5	779.1
5°	781.1	777.6	768.4	774.8	772.6
7.5°	774.8	770.6	760.6	763.5	759.9
10°	766.3	761.3	747.2	745.0	740.9
12.5°	755.7	749.3	730.2	726.0	718.2
15°	743.0	735.1	711.1	697.7	690.7
17.5°	728.1	716.8	687.1	671.5	660.3
20°	711.1	696.9	661.7	644.0	628.4
22.5°	692.8	676.5	635.5	611.5	600.9
25°	674.4	651.8	605.1	576.2	565.5
27.5°	652.5	628.4	576.8	543.6	527.3
30°	629.2	602.2	545.7	509.7	490.5
32.5°	606.5	574.0	516.1	473.6	456.0
35°	581.1	545.1	482.9	438.3	422.7
37.5°	556.3	517.4	451.7	402.9	385.3
40°	530.1	487.8	419.2	369.0	350.6
42.5°	503.3	458.1	386.7	334.3	316.8
45°	475.1	427.6	353.5	303.3	286.2
47.5°	448.2	398.0	321.7	271.4	255.9
50°	418.5	368.4	290.6	241.7	227.0
52.5°	389.4	336.4	260.8	214.2	200.8
55°	361.2	306.1	229.7	187.4	173.9
57.5°	332.3	275.7	202.2	162.6	151.3
60°	302.6	246.0	173.2	137.2	125.9
62.5°	273.6	217.1	148.5	114.5	108.9
65°	243.9	186.6	123.0	99.0	96.9
67.5°	215.6	158.3	99.0	86.9	84.9
70°	185.9	130.8	81.9	74.9	72.1
72.5°	157.6	105.3	68.5	62.9	61.5
75°	130.0	80.5	56.5	51.6	50.9
77.5°	102.5	57.3	44.5	41.7	40.3
80°	77.0	41.0	33.9	31.1	31.1
82.5°	53.7	27.6	23.3	21.9	21.9
85°	30.3	15.5	13.4	13.4	13.4
87.5°	11.3	5.7	5.7	4.9	4.9
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	10.83	12.35	11.20	12.67	12.98	6.79	8.31	7.16	8.63	8.94
	3H	12.60	13.96	12.97	14.29	14.65	8.06	9.42	8.43	9.75	10.11
	4H	13.26	14.54	13.66	14.89	15.27	8.56	9.84	8.96	10.19	10.57
	6H	13.75	14.93	14.16	15.30	15.69	8.94	10.12	9.35	10.49	10.88
	8H	13.92	15.04	14.34	15.43	15.83	9.06	10.19	9.49	10.58	10.98
	12H	14.02	15.10	14.45	15.48	15.91	9.14	10.22	9.57	10.60	11.03
4H	2H	10.93	12.22	11.33	12.56	12.94	7.49	8.77	7.89	9.12	9.49
	3H	12.87	13.93	13.28	14.33	14.73	8.93	9.99	9.34	10.39	10.79
	4H	13.62	14.57	14.05	14.99	15.43	9.53	10.49	9.96	10.90	11.34
	6H	14.21	15.04	14.67	15.48	15.94	10.02	10.85	10.47	11.29	11.75
	8H	14.42	15.20	14.89	15.64	16.11	10.18	10.96	10.64	11.40	11.87
	12H	14.58	15.27	15.06	15.75	16.22	10.30	10.99	10.78	11.47	11.94
8H	4H	13.64	14.42	14.10	14.86	15.33	9.88	10.66	10.35	11.10	11.57
	6H	14.28	14.92	14.77	15.41	15.89	10.47	11.11	10.97	11.60	12.08
	8H	14.53	15.11	15.04	15.61	16.10	10.69	11.27	11.20	11.78	12.26
	12H	14.73	15.24	15.24	15.73	16.30	10.87	11.38	11.38	11.87	12.44
12H	4H	13.62	14.32	14.11	14.80	15.27	9.93	10.62	10.41	11.10	11.57
	6H	14.26	14.84	14.77	15.35	15.83	10.53	11.11	11.05	11.62	12.11
	8H	14.54	15.05	15.05	15.55	16.11	10.81	11.32	11.31	11.81	12.37

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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