

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: P930056

Luminaire Tested: DFN2DS-HX2F0-020DS950-RLL

Issue Date: 11/20/2024

**Test Information**

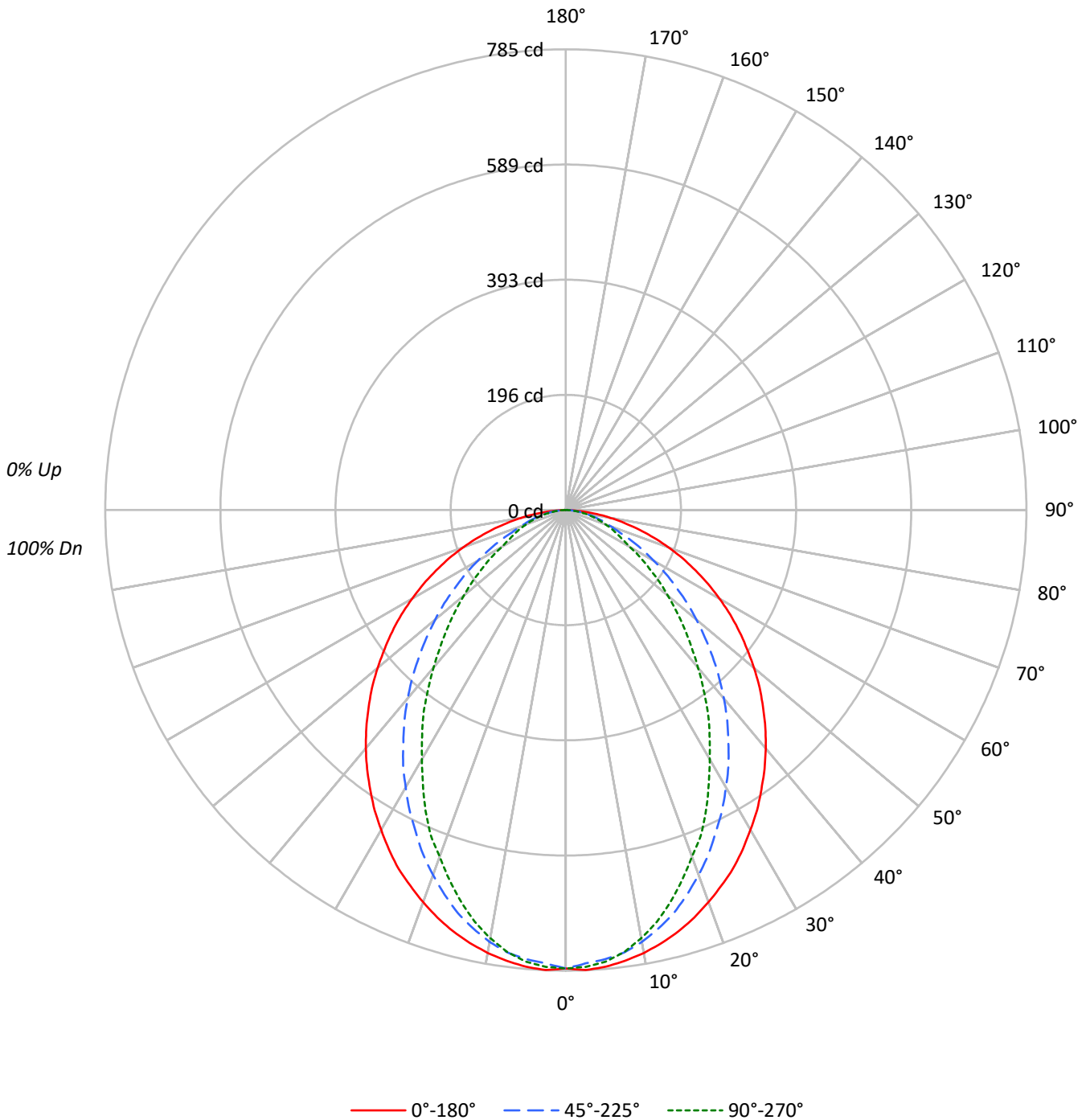
Test Method: LM-79-2019  
Report Number: P930056  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-HX2F0-020DS950-RLL  
Description: 2 foot, Hexagon 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: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9968  
Total Harmonic Distortion (THDi): 0.064  
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	76	76	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	66	66	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	57	57	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	45	45	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	41	41	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	37	37	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	34	34	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	31	31	31	29

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1840	1840	1840
5°	1847	1817	1827
10°	1833	1788	1773
15°	1812	1735	1685
20°	1783	1659	1576
25°	1753	1573	1470
30°	1712	1485	1334
35°	1671	1389	1216
40°	1630	1289	1078
45°	1583	1178	954
50°	1534	1065	832
55°	1484	944	714
60°	1426	816	593
65°	1360	686	540
70°	1281	564	497
75°	1183	514	463
80°	1045	460	422
85°	819	362	362

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1583 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	13.35	14.88	13.72	15.19	15.50	9.31	10.84	9.68	11.15	11.46
	3H	15.12	16.48	15.50	16.81	17.17	10.58	11.95	10.96	12.27	12.64
	4H	15.79	17.07	16.18	17.41	17.79	11.08	12.36	11.48	12.71	13.09
	6H	16.27	17.46	16.69	17.82	18.22	11.46	12.65	11.87	13.01	13.40
	8H	16.44	17.57	16.87	17.96	18.36	11.59	12.71	12.01	13.10	13.50
	12H	16.54	17.62	16.97	18.00	18.43	11.67	12.75	12.10	13.13	13.56
4H	2H	13.46	14.74	13.86	15.09	15.47	10.01	11.29	10.41	11.64	12.02
	3H	15.39	16.45	15.80	16.85	17.25	11.45	12.52	11.86	12.92	13.32
	4H	16.14	17.10	16.57	17.51	17.95	12.05	13.01	12.49	13.42	13.86
	6H	16.73	17.56	17.19	18.01	18.47	12.54	13.37	13.00	13.82	14.27
	8H	16.95	17.72	17.41	18.17	18.64	12.70	13.48	13.17	13.92	14.39
	12H	17.10	17.79	17.58	18.27	18.74	12.82	13.51	13.30	13.99	14.46
8H	4H	16.16	16.94	16.63	17.39	17.85	12.41	13.18	12.87	13.63	14.09
	6H	16.80	17.44	17.30	17.94	18.41	12.99	13.63	13.49	14.13	14.60
	8H	17.05	17.63	17.57	18.14	18.63	13.21	13.79	13.73	14.30	14.79
	12H	17.26	17.77	17.77	18.26	18.82	13.39	13.90	13.90	14.39	14.96
12H	4H	16.15	16.84	16.63	17.32	17.79	12.45	13.14	12.93	13.62	14.09
	6H	16.78	17.36	17.30	17.87	18.36	13.06	13.63	13.57	14.14	14.63
	8H	17.07	17.58	17.58	18.07	18.63	13.33	13.84	13.84	14.33	14.90