

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: P930108

Luminaire Tested: DFN2DS-HX2F0-050DS940-RLL

Issue Date: 11/20/2024

**Test Information**

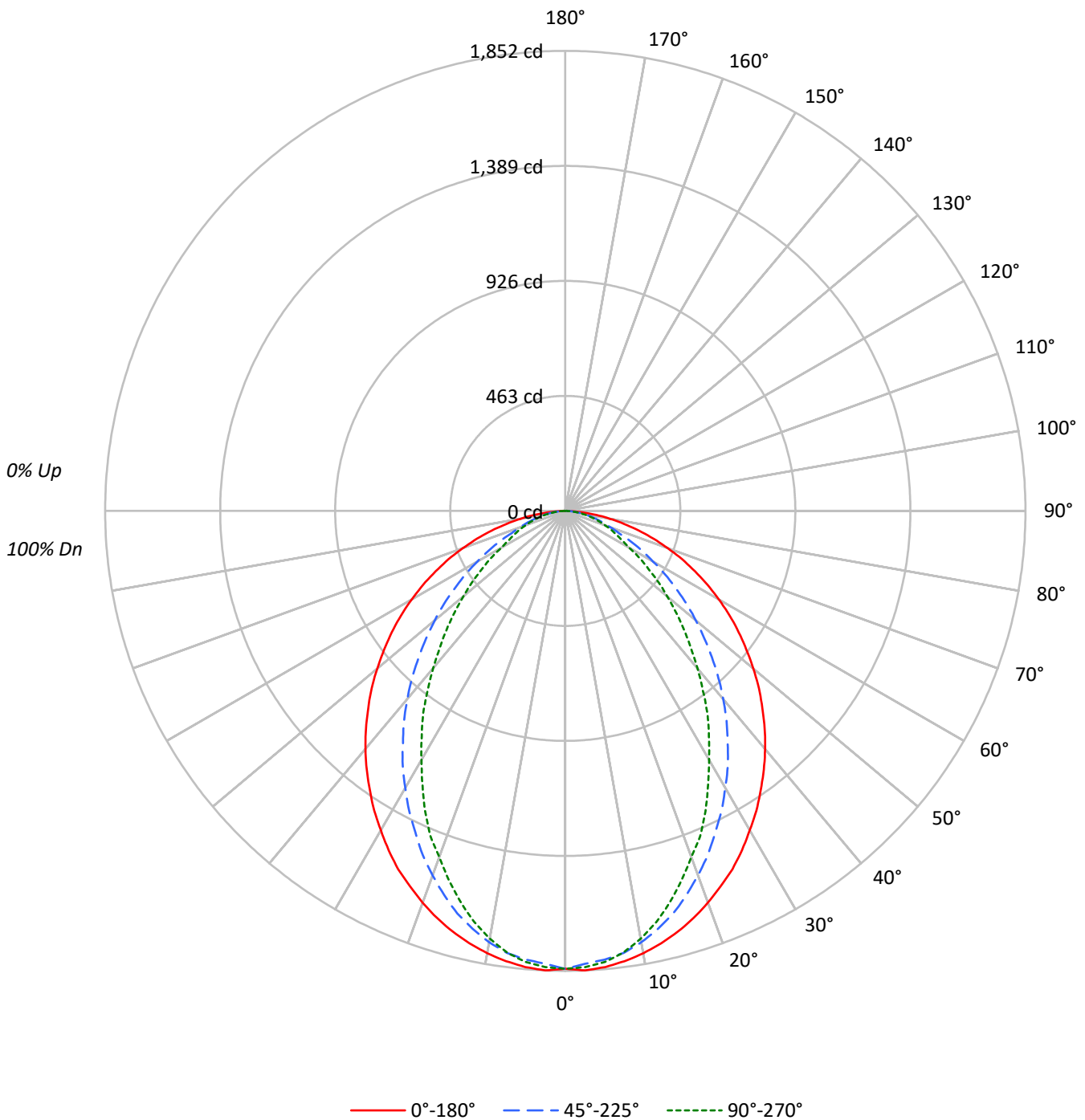
Test Method: LM-79-2019  
Report Number: P930108  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-HX2F0-050DS940-RLL  
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3791.0 lumens  
Efficiency: N/A  
Efficacy: 76.0 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): 49.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9789  
Total Harmonic Distortion (THDi): 0.074  
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°	4343	4343	4343
5°	4360	4289	4312
10°	4326	4219	4183
15°	4277	4094	3976
20°	4208	3915	3718
25°	4137	3712	3469
30°	4039	3504	3149
35°	3944	3277	2869
40°	3848	3042	2545
45°	3736	2779	2251
50°	3620	2513	1963
55°	3501	2227	1686
60°	3365	1925	1399
65°	3208	1618	1274
70°	3023	1333	1172
75°	2794	1214	1094
80°	2467	1085	996
85°	1938	857	857

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3736 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.8	4.6
10°-20°	474.3	12.5
20°-30°	665.8	17.6
30°-40°	725.8	19.1
40°-50°	667.1	17.6
50°-60°	523.9	13.8
60°-70°	341.0	9.0
70°-80°	175.5	4.6
80°-90°	44.8	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°	1312.9	34.6
0°-40°	2038.7	53.8
0°-60°	3229.7	85.2
0°-90°	3791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3791.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1835	1813	1828	1823	175
15°	1753	1735	1678	1646	1630	494
25°	1591	1538	1428	1360	1334	732
35°	1371	1286	1139	1034	998	858
45°	1121	1009	834	716	676	866
55°	852	722	542	442	410	762
65°	576	440	290	234	228	571
75°	307	190	133	122	120	325
85°	72	37	32	32	32	86
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1843.3	1843.3	1843.3	1843.3	1843.3
2.5°	1851.6	1843.3	1824.9	1841.7	1838.3
5°	1843.3	1835.0	1813.3	1828.2	1823.3
7.5°	1828.2	1818.3	1795.0	1801.6	1793.2
10°	1808.3	1796.6	1763.3	1758.2	1748.2
12.5°	1783.3	1768.3	1723.2	1713.3	1694.8
15°	1753.2	1734.9	1678.2	1646.5	1629.9
17.5°	1718.2	1691.5	1621.4	1584.7	1558.0
20°	1678.2	1644.8	1561.4	1519.8	1483.0
22.5°	1634.9	1596.4	1499.6	1443.0	1418.0
25°	1591.4	1538.0	1427.9	1359.6	1334.4
27.5°	1539.8	1483.0	1361.2	1282.8	1244.4
30°	1484.7	1421.2	1287.8	1202.8	1157.6
32.5°	1431.3	1354.5	1217.8	1117.7	1075.9
35°	1371.3	1286.2	1139.4	1034.3	997.5
37.5°	1312.8	1221.1	1066.0	950.8	909.2
40°	1251.1	1151.1	989.1	870.8	827.4
42.5°	1187.8	1081.0	912.5	789.0	747.4
45°	1121.1	1009.2	834.1	715.6	675.5
47.5°	1057.6	939.3	759.1	640.5	603.9
50°	987.6	869.2	685.7	570.4	535.6
52.5°	919.1	794.0	615.6	505.5	473.8
55°	852.4	722.3	542.1	442.1	410.4
57.5°	784.1	650.6	477.1	383.7	357.0
60°	714.0	580.5	408.6	323.7	296.9
62.5°	645.6	512.2	350.3	270.3	257.0
65°	575.5	440.4	290.3	233.6	228.5
67.5°	508.8	373.7	233.6	205.2	200.2
70°	438.8	308.6	193.5	176.8	170.1
72.5°	372.1	248.5	161.8	148.5	145.1
75°	306.9	190.1	133.4	121.8	120.2
77.5°	241.9	135.0	105.2	98.4	95.0
80°	181.8	96.8	80.0	73.4	73.4
82.5°	126.8	65.1	55.0	51.6	51.6
85°	71.7	36.7	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
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	16.34	17.86	16.70	18.17	18.49	12.30	13.82	12.66	14.13	14.45
	3H	18.10	19.47	18.48	19.80	20.16	13.56	14.93	13.94	15.26	15.62
	4H	18.77	20.05	19.17	20.40	20.78	14.06	15.35	14.46	15.69	16.07
	6H	19.26	20.44	19.67	20.81	21.20	14.45	15.63	14.86	15.99	16.39
	8H	19.42	20.55	19.85	20.94	21.34	14.57	15.70	15.00	16.09	16.49
	12H	19.53	20.60	19.96	20.99	21.42	14.65	15.73	15.08	16.11	16.54
4H	2H	16.44	17.72	16.84	18.07	18.45	12.99	14.27	13.39	14.62	15.00
	3H	18.37	19.44	18.79	19.84	20.24	14.44	15.50	14.85	15.90	16.30
	4H	19.12	20.08	19.56	20.50	20.93	15.04	15.99	15.47	16.41	16.85
	6H	19.72	20.55	20.17	20.99	21.45	15.52	16.36	15.98	16.80	17.26
	8H	19.93	20.71	20.39	21.15	21.62	15.69	16.46	16.15	16.91	17.37
	12H	20.08	20.78	20.57	21.26	21.73	15.80	16.50	16.28	16.98	17.45
8H	4H	19.15	19.93	19.61	20.37	20.84	15.39	16.17	15.85	16.61	17.08
	6H	19.79	20.43	20.28	20.92	21.40	15.98	16.62	16.47	17.11	17.59
	8H	20.04	20.61	20.55	21.12	21.61	16.20	16.77	16.71	17.28	17.77
	12H	20.24	20.75	20.75	21.24	21.81	16.38	16.89	16.89	17.38	17.94
12H	4H	19.13	19.83	19.61	20.31	20.78	15.43	16.13	15.92	16.61	17.08
	6H	19.77	20.34	20.28	20.85	21.34	16.04	16.62	16.55	17.13	17.61
	8H	20.05	20.56	20.56	21.05	21.62	16.31	16.82	16.82	17.31	17.88