

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: P930166

Luminaire Tested: DFN2DS-HX3F0-050DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930166
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-HX3F0-050DS830-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

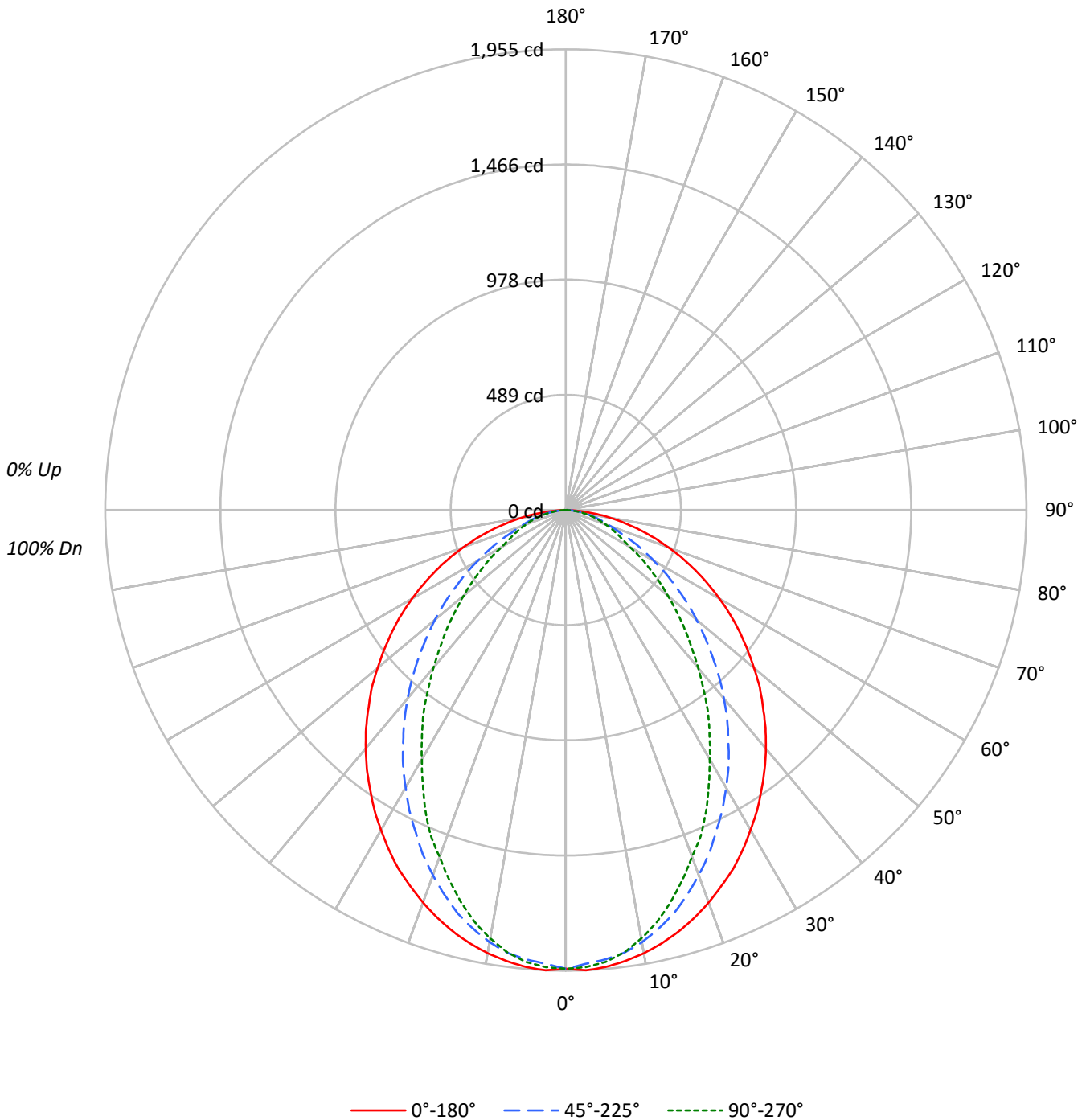
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4003.5 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 49.2
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									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	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	100	100	100	100	100	100	100	100	100	100	100	100	100																
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	86	86	86	86	86	86	86	86	86	86	86																
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74	74	74	74	74	74	74	74	74	74	74	74	74																
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64	64	64	64	64	64	64	64	64	64	64	64	64																
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55	55	55	55	55	55	55	55	55	55	55	55	55																
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49	49	49	49	49	49	49	49	49	49	49	49	49																
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43	43	43	43	43	43	43	43	43	43	43	43	43																
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39	39	39	39	39	39	39	39	39	39	39	39	39																
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35	35	35	35	35	35	35	35	35	35	35	35	35																
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32	32	32	32	32	32	32	32	32	32	32	32	32																
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29	29	29	29	29	29	29	29	29	29	29	29	29																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2255	2255	2255
5°	2263	2227	2239
10°	2246	2190	2172
15°	2220	2125	2064
20°	2185	2033	1931
25°	2148	1927	1801
30°	2097	1819	1635
35°	2048	1702	1490
40°	1998	1580	1321
45°	1939	1443	1169
50°	1880	1305	1019
55°	1818	1156	875
60°	1747	1000	727
65°	1666	840	661
70°	1569	692	608
75°	1451	631	568
80°	1281	564	517
85°	1006	444	444

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1939 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.4	4.6
10°-20°	500.8	12.5
20°-30°	703.2	17.6
30°-40°	766.5	19.1
40°-50°	704.5	17.6
50°-60°	553.3	13.8
60°-70°	360.1	9.0
70°-80°	185.4	4.6
80°-90°	47.3	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°	1386.4	34.6
0°-40°	2152.9	53.8
0°-60°	3410.7	85.2
0°-90°	4003.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4003.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1947	1947	1947	1947	1947	
5°	1947	1938	1915	1931	1926	185
15°	1852	1832	1772	1739	1721	522
25°	1681	1624	1508	1436	1409	773
35°	1448	1358	1203	1092	1053	906
45°	1184	1066	881	756	713	914
55°	900	763	572	467	433	804
65°	608	465	306	247	241	603
75°	324	201	141	129	127	343
85°	76	39	33	33	33	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1946.6	1946.6	1946.6	1946.6	1946.6
2.5°	1955.4	1946.6	1927.2	1944.9	1941.4
5°	1946.6	1937.9	1914.9	1930.7	1925.5
7.5°	1930.7	1920.3	1895.6	1902.6	1893.7
10°	1909.6	1897.3	1862.1	1856.8	1846.2
12.5°	1883.2	1867.4	1819.8	1809.3	1789.8
15°	1851.5	1832.1	1772.3	1738.8	1721.2
17.5°	1814.5	1786.3	1712.3	1673.6	1645.3
20°	1772.3	1737.0	1648.9	1605.0	1566.1
22.5°	1726.5	1685.9	1583.7	1523.9	1497.5
25°	1680.6	1624.2	1508.0	1435.8	1409.2
27.5°	1626.1	1566.1	1437.5	1354.7	1314.2
30°	1568.0	1500.9	1360.0	1270.2	1222.5
32.5°	1511.5	1430.4	1286.1	1180.3	1136.2
35°	1448.1	1358.3	1203.3	1092.2	1053.4
37.5°	1386.4	1289.5	1125.8	1004.1	960.2
40°	1321.2	1215.7	1044.6	919.6	873.8
42.5°	1254.4	1141.6	963.7	833.2	789.3
45°	1183.9	1065.8	880.9	755.7	713.4
47.5°	1116.9	991.9	801.6	676.5	637.7
50°	1043.0	917.9	724.1	602.4	565.6
52.5°	970.6	838.5	650.1	533.8	500.4
55°	900.2	762.7	572.5	466.9	433.4
57.5°	828.0	687.1	503.9	405.2	377.0
60°	754.0	613.1	431.5	341.9	313.6
62.5°	681.8	540.9	369.9	285.4	271.4
65°	607.8	465.1	306.5	246.7	241.3
67.5°	537.3	394.6	246.7	216.7	211.4
70°	463.4	325.9	204.3	186.7	179.6
72.5°	392.9	262.4	170.9	156.8	153.3
75°	324.1	200.7	140.9	128.6	126.9
77.5°	255.5	142.6	111.1	103.9	100.3
80°	192.0	102.2	84.5	77.5	77.5
82.5°	133.9	68.8	58.1	54.5	54.5
85°	75.7	38.7	33.4	33.4	33.4
87.5°	28.3	14.0	14.0	12.3	12.3
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	14.06	15.58	14.42	15.90	16.21	10.02	11.54	10.39	11.86	12.17
	3H	15.83	17.19	16.20	17.52	17.88	11.29	12.65	11.66	12.98	13.34
	4H	16.49	17.77	16.89	18.12	18.50	11.79	13.07	12.19	13.42	13.80
	6H	16.98	18.16	17.39	18.53	18.92	12.17	13.35	12.58	13.72	14.11
	8H	17.15	18.27	17.57	18.66	19.06	12.29	13.42	12.72	13.81	14.21
	12H	17.25	18.33	17.68	18.71	19.14	12.37	13.45	12.80	13.83	14.26
4H	2H	14.16	15.44	14.56	15.79	16.17	10.72	12.00	11.12	12.34	12.72
	3H	16.10	17.16	16.51	17.56	17.96	12.16	13.22	12.57	13.62	14.02
	4H	16.85	17.80	17.28	18.22	18.66	12.76	13.71	13.19	14.13	14.57
	6H	17.44	18.27	17.90	18.71	19.17	13.25	14.08	13.70	14.52	14.98
	8H	17.65	18.43	18.12	18.87	19.34	13.41	14.18	13.87	14.63	15.10
	12H	17.81	18.50	18.29	18.98	19.45	13.52	14.22	14.01	14.70	15.17
8H	4H	16.87	17.65	17.33	18.09	18.56	13.11	13.89	13.58	14.33	14.80
	6H	17.51	18.15	18.00	18.64	19.12	13.70	14.34	14.19	14.83	15.31
	8H	17.76	18.34	18.27	18.84	19.33	13.92	14.50	14.43	15.00	15.49
	12H	17.96	18.47	18.47	18.96	19.53	14.10	14.61	14.61	15.10	15.66
12H	4H	16.85	17.55	17.34	18.03	18.50	13.16	13.85	13.64	14.33	14.80
	6H	17.49	18.07	18.00	18.58	19.06	13.76	14.34	14.28	14.85	15.34
	8H	17.77	18.28	18.28	18.78	19.34	14.03	14.54	14.54	15.04	15.60