

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: P930148

Luminaire Tested: DFN2DS-HX3F0-040DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930148
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-HX3F0-040DS830-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

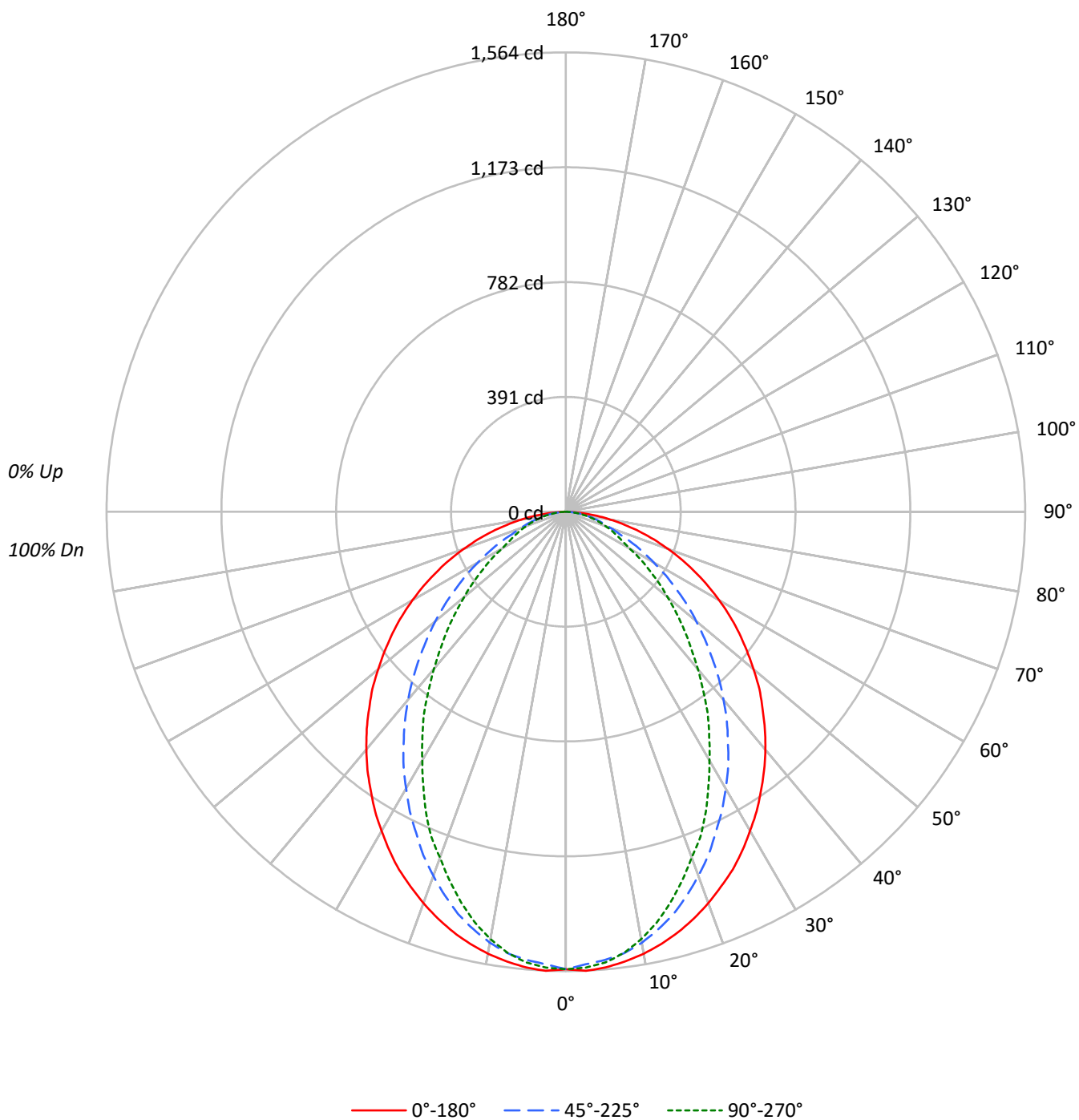
Lumens per Lamp: N/A
Luminaire Lumens: 3202.8 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 38.9
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

TEST NUMBER: P930148

CATALOG NUMBER: DFN2DS-HX3F0-040DS830-RLL

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°	1804	1804	1804
5°	1811	1781	1791
10°	1797	1752	1737
15°	1776	1700	1651
20°	1748	1626	1544
25°	1718	1542	1441
30°	1678	1455	1308
35°	1638	1361	1192
40°	1598	1264	1057
45°	1551	1154	935
50°	1503	1044	815
55°	1454	925	700
60°	1397	800	581
65°	1333	672	529
70°	1255	553	487
75°	1160	505	454
80°	1024	450	414
85°	805	356	356

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1551 cd/sqm

TEST NUMBER: P930148

CATALOG NUMBER: DFN2DS-HX3F0-040DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.0	4.6
10°-20°	400.7	12.5
20°-30°	562.5	17.6
30°-40°	613.2	19.1
40°-50°	563.6	17.6
50°-60°	442.6	13.8
60°-70°	288.1	9.0
70°-80°	148.3	4.6
80°-90°	37.9	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°	1109.1	34.6
0°-40°	1722.3	53.8
0°-60°	2728.5	85.2
0°-90°	3202.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3202.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1557	1557	1557	1557	1557	
5°	1557	1550	1532	1545	1540	148
15°	1481	1466	1418	1391	1377	417
25°	1344	1299	1206	1149	1127	618
35°	1159	1087	963	874	843	725
45°	947	853	705	605	571	731
55°	720	610	458	374	347	644
65°	486	372	245	197	193	482
75°	259	161	113	103	102	274
85°	61	31	27	27	27	73
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-HX3F0-040DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1564.4	1557.3	1541.8	1556.0	1553.1
5°	1557.3	1550.2	1531.9	1544.6	1540.5
7.5°	1544.6	1536.2	1516.5	1522.0	1515.0
10°	1527.7	1517.8	1489.7	1485.3	1477.1
12.5°	1506.6	1493.9	1455.8	1447.4	1431.8
15°	1481.2	1465.7	1417.8	1391.1	1377.0
17.5°	1451.6	1429.0	1369.8	1338.9	1316.3
20°	1417.8	1389.5	1319.1	1283.9	1252.9
22.5°	1381.2	1348.8	1266.9	1219.0	1198.0
25°	1344.5	1299.4	1206.3	1148.7	1127.4
27.5°	1300.9	1252.9	1150.0	1083.8	1051.3
30°	1254.4	1200.7	1087.9	1016.1	978.1
32.5°	1209.2	1144.3	1028.9	944.3	908.9
35°	1158.6	1086.6	962.6	873.8	842.7
37.5°	1109.2	1031.6	900.6	803.2	768.1
40°	1057.0	972.5	835.7	735.7	699.1
42.5°	1003.4	913.3	770.9	666.6	631.4
45°	947.1	852.6	704.7	604.6	570.8
47.5°	893.6	793.5	641.3	541.2	510.2
50°	834.3	734.3	579.2	481.9	452.4
52.5°	776.5	670.8	520.1	427.0	400.3
55°	720.2	610.2	458.0	373.5	346.8
57.5°	662.4	549.7	403.1	324.1	301.6
60°	603.2	490.4	345.2	273.5	250.9
62.5°	545.5	432.8	295.9	228.3	217.1
65°	486.3	372.0	245.2	197.3	193.0
67.5°	429.9	315.7	197.3	173.3	169.1
70°	370.7	260.7	163.4	149.4	143.7
72.5°	314.3	210.0	136.7	125.5	122.6
75°	259.2	160.6	112.8	102.9	101.5
77.5°	204.4	114.1	88.8	83.2	80.3
80°	153.5	81.8	67.5	62.1	62.1
82.5°	107.1	55.0	46.5	43.6	43.6
85°	60.6	31.0	26.8	26.8	26.8
87.5°	22.6	11.2	11.2	9.9	9.9
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	13.28	14.81	13.65	15.12	15.43	9.24	10.77	9.61	11.08	11.39
	3H	15.05	16.42	15.43	16.74	17.10	10.51	11.87	10.89	12.20	12.56
	4H	15.72	17.00	16.12	17.35	17.72	11.01	12.29	11.41	12.64	13.02
	6H	16.20	17.39	16.62	17.75	18.15	11.39	12.58	11.80	12.94	13.33
	8H	16.37	17.50	16.80	17.89	18.29	11.52	12.64	11.94	13.03	13.43
	12H	16.47	17.55	16.90	17.93	18.36	11.60	12.68	12.03	13.06	13.49
4H	2H	13.39	14.67	13.79	15.02	15.40	9.94	11.22	10.34	11.57	11.95
	3H	15.32	16.38	15.73	16.78	17.19	11.38	12.45	11.79	12.85	13.25
	4H	16.07	17.03	16.50	17.44	17.88	11.98	12.94	12.42	13.35	13.79
	6H	16.66	17.49	17.12	17.94	18.40	12.47	13.30	12.93	13.75	14.21
	8H	16.88	17.65	17.34	18.10	18.57	12.63	13.41	13.10	13.85	14.32
	12H	17.03	17.73	17.51	18.20	18.67	12.75	13.44	13.23	13.92	14.39
8H	4H	16.10	16.87	16.56	17.32	17.78	12.34	13.11	12.80	13.56	14.03
	6H	16.73	17.38	17.23	17.87	18.34	12.92	13.57	13.42	14.06	14.53
	8H	16.98	17.56	17.50	18.07	18.56	13.14	13.72	13.66	14.23	14.72
	12H	17.19	17.70	17.70	18.19	18.75	13.32	13.83	13.83	14.33	14.89
12H	4H	16.08	16.77	16.56	17.25	17.72	12.38	13.07	12.86	13.55	14.02
	6H	16.71	17.29	17.23	17.80	18.29	12.99	13.56	13.50	14.07	14.56
	8H	17.00	17.51	17.51	18.00	18.56	13.26	13.77	13.77	14.26	14.83