

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: P930256

Luminaire Tested: DFN2DS-HX4F0-040DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930256
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-HX4F0-040DS830-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

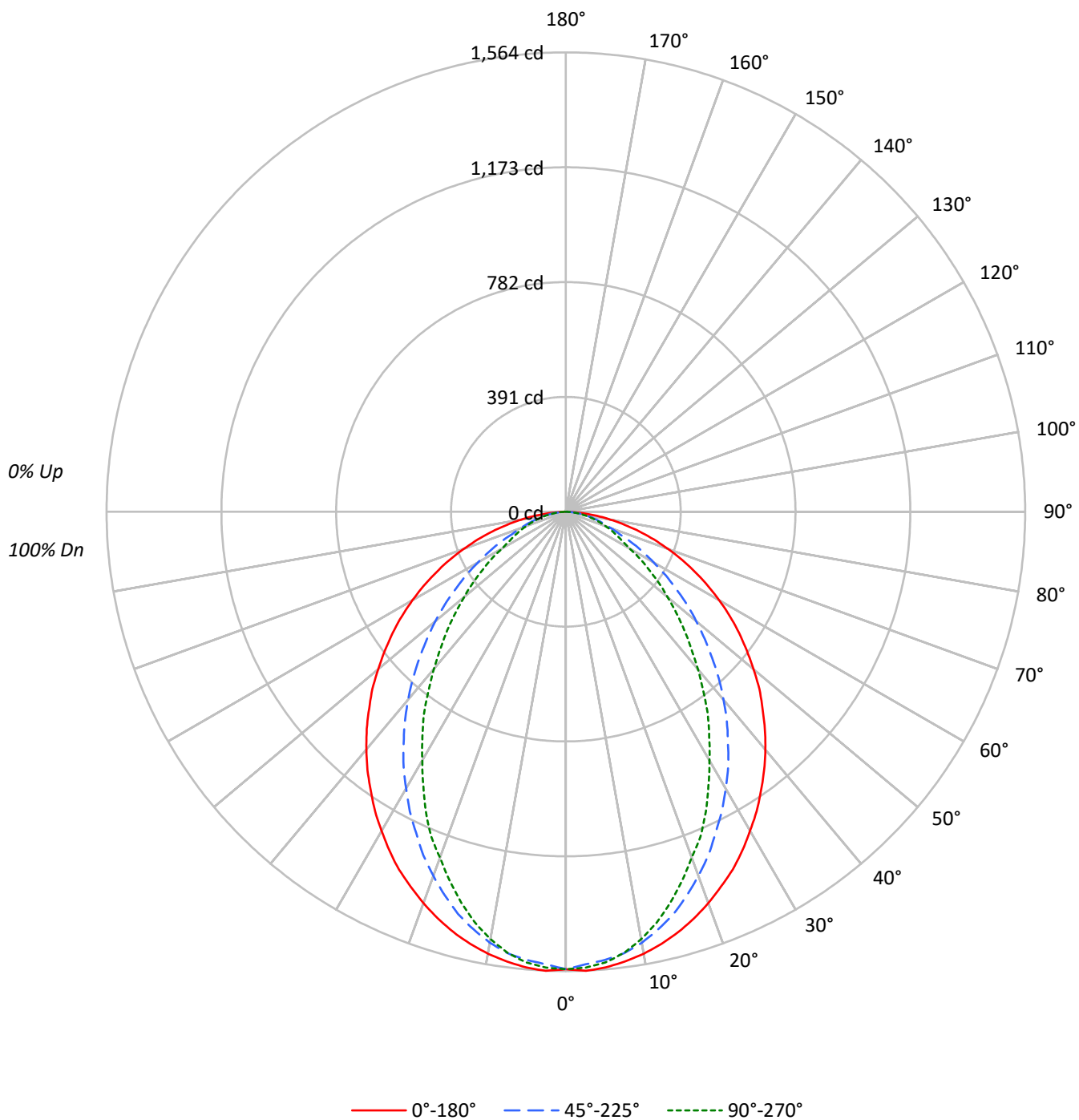
Lumens per Lamp: N/A
Luminaire Lumens: 3202.8 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 38.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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°	1158	1158	1158
5°	1162	1143	1150
10°	1153	1125	1115
15°	1140	1091	1060
20°	1122	1044	991
25°	1103	990	925
30°	1077	934	840
35°	1052	874	765
40°	1026	811	679
45°	996	741	600
50°	965	670	523
55°	934	594	450
60°	897	513	373
65°	856	431	340
70°	806	355	312
75°	745	324	292
80°	657	289	266
85°	517	229	229

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 996 cd/sqm

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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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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	11.74	13.27	12.11	13.58	13.89	7.70	9.23	8.07	9.54	9.85
	3H	13.51	14.88	13.89	15.20	15.56	8.97	10.33	9.35	10.66	11.02
	4H	14.18	15.46	14.58	15.81	16.18	9.47	10.75	9.87	11.10	11.48
	6H	14.66	15.85	15.08	16.21	16.61	9.85	11.04	10.26	11.40	11.79
	8H	14.83	15.96	15.26	16.35	16.75	9.98	11.10	10.40	11.49	11.89
	12H	14.93	16.01	15.36	16.39	16.82	10.06	11.14	10.49	11.52	11.95
4H	2H	11.85	13.13	12.25	13.48	13.86	8.40	9.68	8.80	10.03	10.41
	3H	13.78	14.84	14.19	15.24	15.65	9.84	10.91	10.25	11.31	11.71
	4H	14.53	15.49	14.96	15.90	16.34	10.44	11.40	10.88	11.81	12.25
	6H	15.12	15.95	15.58	16.40	16.86	10.93	11.76	11.39	12.21	12.67
	8H	15.34	16.11	15.80	16.56	17.03	11.09	11.87	11.56	12.31	12.78
	12H	15.49	16.19	15.97	16.66	17.13	11.21	11.90	11.69	12.38	12.85
8H	4H	14.56	15.33	15.02	15.78	16.24	10.80	11.57	11.26	12.02	12.49
	6H	15.19	15.84	15.69	16.33	16.80	11.38	12.03	11.88	12.52	12.99
	8H	15.44	16.02	15.96	16.53	17.02	11.60	12.18	12.12	12.69	13.18
	12H	15.65	16.16	16.16	16.65	17.21	11.78	12.29	12.29	12.79	13.35
12H	4H	14.54	15.23	15.02	15.71	16.18	10.84	11.53	11.32	12.01	12.48
	6H	15.17	15.75	15.69	16.26	16.75	11.45	12.02	11.96	12.53	13.02
	8H	15.46	15.97	15.97	16.46	17.02	11.72	12.23	12.23	12.72	13.29