

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: P930158

Luminaire Tested: DFN2DS-HX3F0-040DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930158
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-HX3F0-040DS930-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

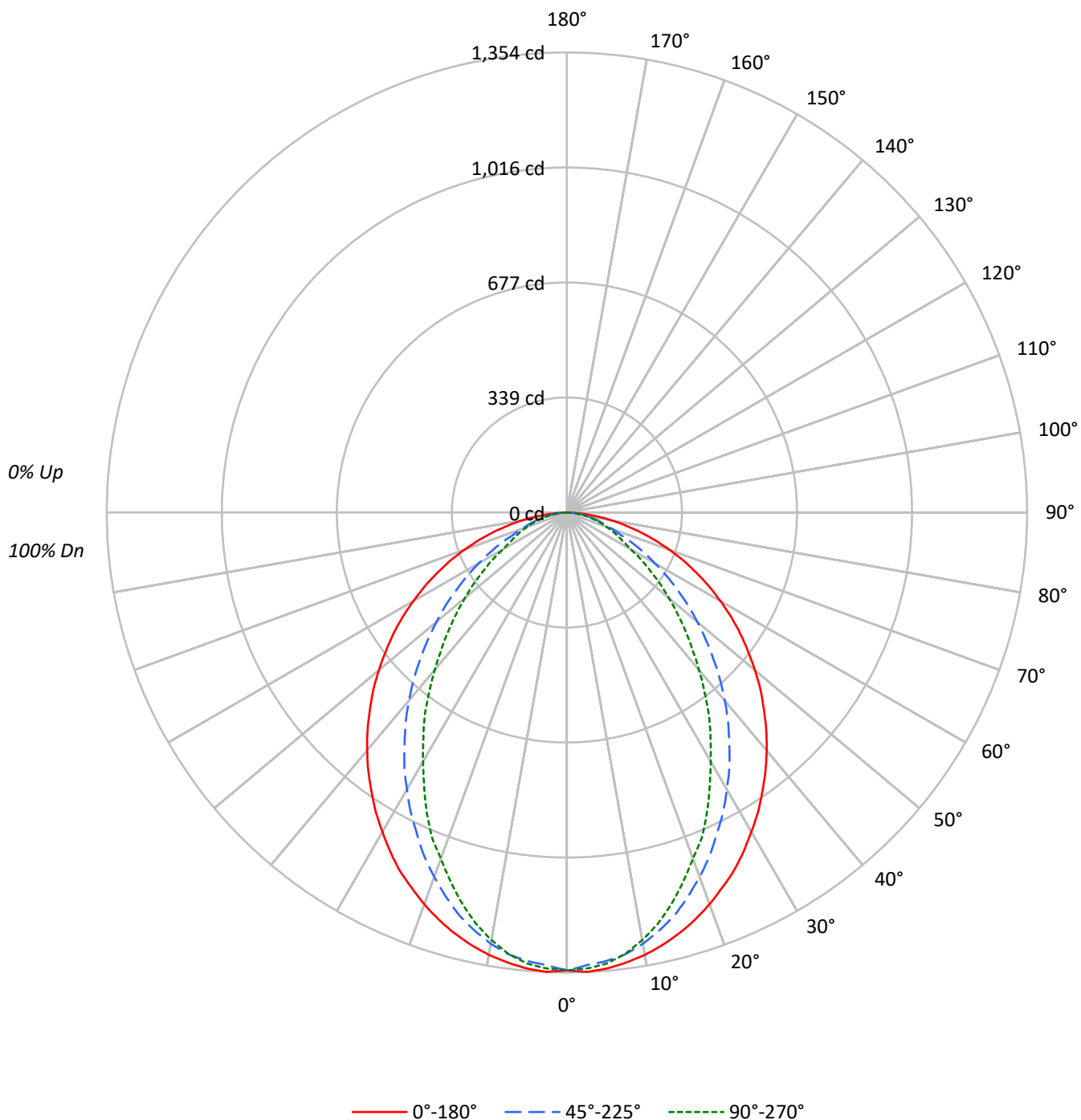
Lumens per Lamp: N/A
Luminaire Lumens: 2771.0 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

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

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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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1561	1561	1561
5°	1567	1541	1550
10°	1555	1516	1503
15°	1537	1471	1429
20°	1512	1407	1336
25°	1487	1334	1247
30°	1452	1259	1132
35°	1417	1178	1031
40°	1383	1093	915
45°	1342	999	809
50°	1301	903	705
55°	1258	800	606
60°	1209	692	503
65°	1153	581	458
70°	1086	479	421
75°	1004	437	393
80°	886	390	358
85°	696	307	307

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1342 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	4.6
10°-20°	346.7	12.5
20°-30°	486.7	17.6
30°-40°	530.5	19.1
40°-50°	487.6	17.6
50°-60°	382.9	13.8
60°-70°	249.3	9.0
70°-80°	128.3	4.6
80°-90°	32.8	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°	959.6	34.6
0°-40°	1490.1	53.8
0°-60°	2360.7	85.2
0°-90°	2771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2771.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1347	1347	1347	1347	1347	
5°	1347	1341	1325	1336	1333	128
15°	1282	1268	1227	1204	1191	361
25°	1163	1124	1044	994	975	535
35°	1002	940	833	756	729	627
45°	819	738	610	523	494	633
55°	623	528	396	323	300	557
65°	421	322	212	171	167	417
75°	224	139	98	89	88	237
85°	52	27	23	23	23	63
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1347.4	1347.4	1347.4	1347.4	1347.4
2.5°	1353.5	1347.4	1333.9	1346.2	1343.7
5°	1347.4	1341.2	1325.4	1336.4	1332.8
7.5°	1336.4	1329.1	1312.1	1316.8	1310.8
10°	1321.8	1313.2	1288.8	1285.1	1277.9
12.5°	1303.5	1292.5	1259.5	1252.2	1238.8
15°	1281.5	1268.1	1226.7	1203.5	1191.4
17.5°	1255.9	1236.4	1185.1	1158.4	1138.8
20°	1226.7	1202.2	1141.2	1110.8	1083.9
22.5°	1195.0	1166.9	1096.1	1054.7	1036.5
25°	1163.2	1124.2	1043.7	993.8	975.4
27.5°	1125.5	1083.9	995.0	937.7	909.5
30°	1085.3	1038.8	941.2	879.1	846.2
32.5°	1046.2	990.1	890.1	817.0	786.4
35°	1002.4	940.1	832.8	756.0	729.1
37.5°	959.7	892.5	779.1	695.0	664.6
40°	914.5	841.4	723.1	636.5	604.8
42.5°	868.1	790.1	667.0	576.7	546.3
45°	819.4	737.7	609.7	523.1	493.8
47.5°	773.1	686.6	554.9	468.2	441.4
50°	721.8	635.3	501.1	417.0	391.4
52.5°	671.8	580.4	450.0	369.4	346.3
55°	623.1	528.0	396.3	323.1	300.0
57.5°	573.1	475.6	348.7	280.4	261.0
60°	521.8	424.3	298.7	236.6	217.1
62.5°	472.0	374.4	256.0	197.6	187.9
65°	420.7	321.8	212.1	170.7	167.0
67.5°	372.0	273.1	170.7	150.0	146.3
70°	320.7	225.6	141.4	129.3	124.3
72.5°	272.0	181.7	118.3	108.6	106.1
75°	224.3	139.0	97.6	89.0	87.9
77.5°	176.9	98.7	76.9	72.0	69.4
80°	132.8	70.7	58.4	53.7	53.7
82.5°	92.7	47.6	40.3	37.7	37.7
85°	52.4	26.8	23.1	23.1	23.1
87.5°	19.6	9.7	9.7	8.6	8.6
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	12.78	14.30	13.15	14.62	14.93	8.74	10.26	9.11	10.58	10.89
	3H	14.55	15.91	14.92	16.24	16.60	10.01	11.37	10.38	11.70	12.06
	4H	15.21	16.49	15.61	16.84	17.22	10.51	11.79	10.91	12.14	12.52
	6H	15.70	16.89	16.11	17.25	17.64	10.89	12.07	11.30	12.44	12.83
	8H	15.87	16.99	16.29	17.38	17.78	11.01	12.14	11.44	12.53	12.93
	12H	15.97	17.05	16.40	17.43	17.86	11.09	12.17	11.52	12.55	12.98
4H	2H	12.89	14.17	13.29	14.51	14.89	9.44	10.72	9.84	11.07	11.44
	3H	14.82	15.88	15.23	16.28	16.68	10.88	11.94	11.29	12.34	12.74
	4H	15.57	16.53	16.00	16.94	17.38	11.48	12.44	11.91	12.85	13.29
	6H	16.16	16.99	16.62	17.43	17.89	11.97	12.80	12.43	13.24	13.70
	8H	16.37	17.15	16.84	17.60	18.06	12.13	12.91	12.59	13.35	13.82
	12H	16.53	17.22	17.01	17.70	18.17	12.25	12.94	12.73	13.42	13.89
8H	4H	15.59	16.37	16.06	16.81	17.28	11.83	12.61	12.30	13.06	13.52
	6H	16.23	16.87	16.73	17.36	17.84	12.42	13.06	12.92	13.55	14.03
	8H	16.48	17.06	16.99	17.57	18.05	12.64	13.22	13.15	13.73	14.22
	12H	16.68	17.19	17.19	17.69	18.25	12.82	13.33	13.33	13.82	14.39
12H	4H	15.58	16.27	16.06	16.75	17.22	11.88	12.57	12.36	13.05	13.52
	6H	16.21	16.79	16.72	17.30	17.79	12.48	13.06	13.00	13.57	14.06
	8H	16.50	17.01	17.00	17.50	18.06	12.76	13.27	13.27	13.76	14.32