

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: P930054

Luminaire Tested: DFN2DS-HX2F0-020DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930054
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-HX2F0-020DS940-RLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

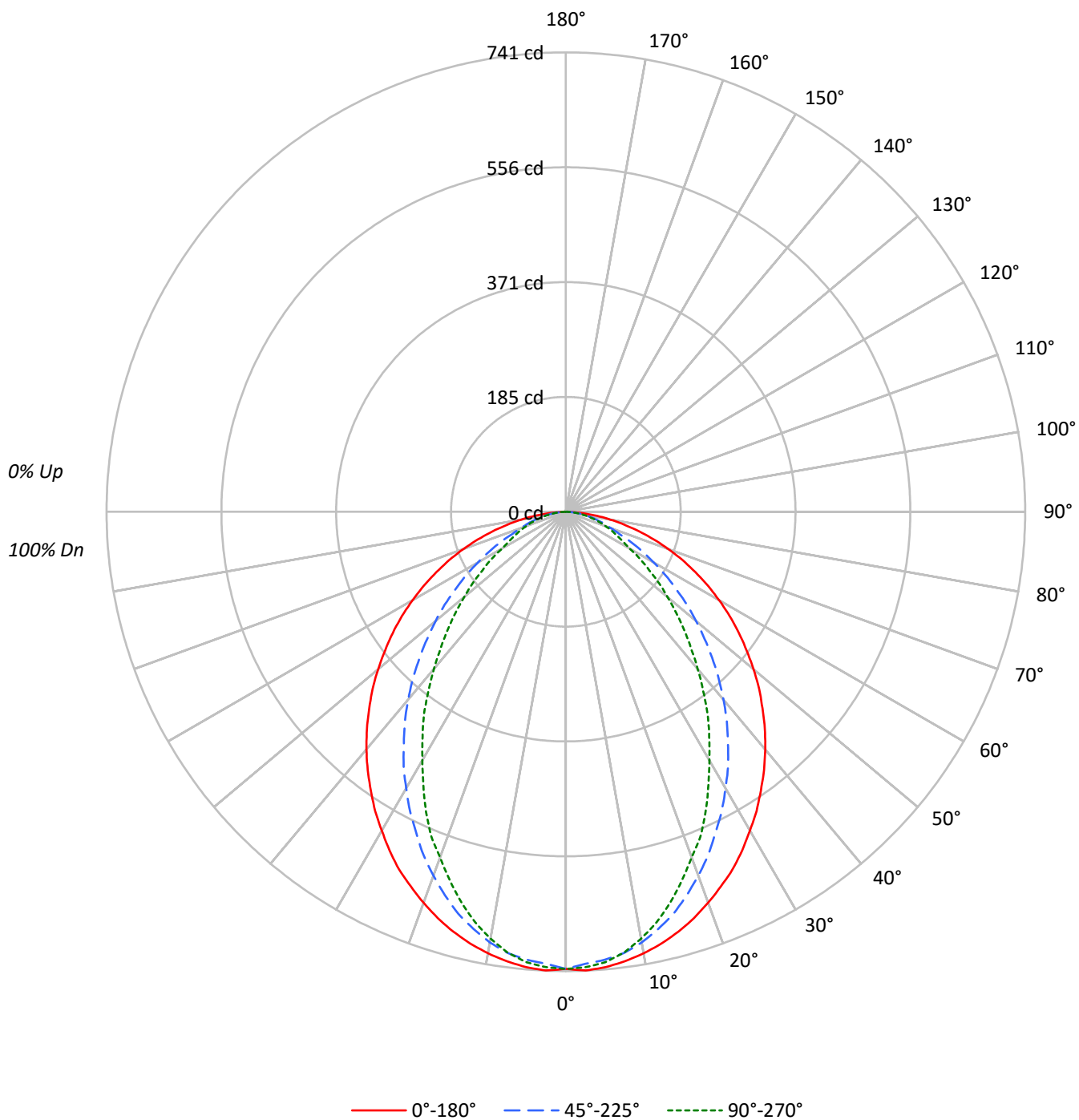
Lumens per Lamp: N/A
Luminaire Lumens: 1516.4 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
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°	1737	1737	1737
5°	1744	1715	1725
10°	1730	1687	1673
15°	1711	1637	1590
20°	1683	1566	1487
25°	1655	1485	1388
30°	1616	1401	1260
35°	1578	1311	1148
40°	1539	1217	1018
45°	1494	1112	900
50°	1448	1005	786
55°	1400	891	674
60°	1346	770	560
65°	1283	647	510
70°	1209	533	469
75°	1117	485	438
80°	986	434	398
85°	773	343	343

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1494 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.1	4.6
10°-20°	189.7	12.5
20°-30°	266.3	17.6
30°-40°	290.3	19.1
40°-50°	266.8	17.6
50°-60°	209.6	13.8
60°-70°	136.4	9.0
70°-80°	70.2	4.6
80°-90°	17.9	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°	525.1	34.6
0°-40°	815.5	53.8
0°-60°	1291.9	85.2
0°-90°	1516.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1516.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	737	737	737	737	737	
5°	737	734	725	731	729	70
15°	701	694	671	659	652	198
25°	637	615	571	544	534	293
35°	548	514	456	414	399	343
45°	448	404	334	286	270	346
55°	341	289	217	177	164	305
65°	230	176	116	94	91	228
75°	123	76	53	49	48	130
85°	29	15	13	13	13	34
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	737.3	737.3	737.3	737.3	737.3
2.5°	740.6	737.3	729.9	736.7	735.4
5°	737.3	734.0	725.3	731.4	729.3
7.5°	731.4	727.3	718.0	720.6	717.3
10°	723.3	718.6	705.3	703.3	699.3
12.5°	713.3	707.3	689.2	685.3	677.9
15°	701.3	693.9	671.2	658.6	652.0
17.5°	687.3	676.6	648.6	633.9	623.2
20°	671.2	657.8	624.6	607.9	593.2
22.5°	653.9	638.6	599.9	577.2	567.2
25°	636.6	615.2	571.1	543.9	533.8
27.5°	615.9	593.2	544.5	513.1	497.7
30°	593.9	568.5	515.1	481.1	463.0
32.5°	572.5	541.8	487.1	447.1	430.4
35°	548.5	514.5	455.8	413.7	399.0
37.5°	525.1	488.4	426.4	380.3	363.7
40°	500.4	460.5	395.7	348.3	330.9
42.5°	475.1	432.4	365.0	315.6	299.0
45°	448.4	403.6	333.7	286.2	270.2
47.5°	423.1	375.7	303.6	256.2	241.6
50°	395.1	347.7	274.3	228.2	214.3
52.5°	367.6	317.6	246.2	202.2	189.6
55°	340.9	288.9	216.8	176.9	164.1
57.5°	313.6	260.2	190.9	153.5	142.8
60°	285.6	232.2	163.5	129.5	118.8
62.5°	258.2	204.9	140.1	108.1	102.8
65°	230.2	176.2	116.1	93.5	91.4
67.5°	203.6	149.4	93.5	82.1	80.1
70°	175.5	123.5	77.3	70.7	68.1
72.5°	148.8	99.4	64.7	59.4	58.1
75°	122.7	76.0	53.3	48.7	48.1
77.5°	96.8	54.1	42.0	39.3	38.0
80°	72.7	38.7	32.0	29.3	29.3
82.5°	50.7	26.0	22.0	20.7	20.7
85°	28.6	14.6	12.7	12.7	12.7
87.5°	10.7	5.4	5.4	4.6	4.6
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	13.15	14.67	13.52	14.99	15.30	9.11	10.64	9.48	10.95	11.26
	3H	14.92	16.28	15.30	16.61	16.97	10.38	11.75	10.76	12.07	12.44
	4H	15.58	16.87	15.98	17.21	17.59	10.88	12.16	11.28	12.51	12.89
	6H	16.07	17.26	16.49	17.62	18.02	11.26	12.45	11.67	12.81	13.20
	8H	16.24	17.37	16.67	17.76	18.16	11.39	12.51	11.81	12.90	13.30
	12H	16.34	17.42	16.77	17.80	18.23	11.47	12.55	11.90	12.93	13.36
4H	2H	13.26	14.54	13.66	14.89	15.26	9.81	11.09	10.21	11.44	11.82
	3H	15.19	16.25	15.60	16.65	17.05	11.25	12.32	11.66	12.72	13.12
	4H	15.94	16.90	16.37	17.31	17.75	11.85	12.81	12.29	13.23	13.66
	6H	16.53	17.36	16.99	17.81	18.27	12.34	13.17	12.80	13.61	14.07
	8H	16.75	17.52	17.21	17.97	18.43	12.50	13.28	12.96	13.72	14.19
	12H	16.90	17.59	17.38	18.07	18.54	12.62	13.31	13.10	13.79	14.26
8H	4H	15.96	16.74	16.43	17.19	17.65	12.21	12.98	12.67	13.43	13.89
	6H	16.60	17.24	17.10	17.74	18.21	12.79	13.43	13.29	13.92	14.40
	8H	16.85	17.43	17.37	17.94	18.43	13.01	13.59	13.53	14.10	14.59
	12H	17.06	17.56	17.56	18.06	18.62	13.19	13.70	13.70	14.19	14.76
12H	4H	15.95	16.64	16.43	17.12	17.59	12.25	12.94	12.73	13.42	13.89
	6H	16.58	17.16	17.10	17.67	18.16	12.85	13.43	13.37	13.94	14.43
	8H	16.87	17.38	17.38	17.87	18.43	13.13	13.64	13.64	14.13	14.69