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: P919030

Luminaire Tested: DFN2DIP-HX3F0-090D030US935-FLLFLL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P919030
	REPORT IS A COMBINATION OF REPORTS P899213 AND P896089
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-HX3F0-090D030US935-FLLFLL
Description:	3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	9957.4 lumens
Efficiency:	N/A
Efficacy:	86.1 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 1.16 / 1.29
Luminous Opening:	Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type:	Semi-Direct

Input Watts (W):	115.6
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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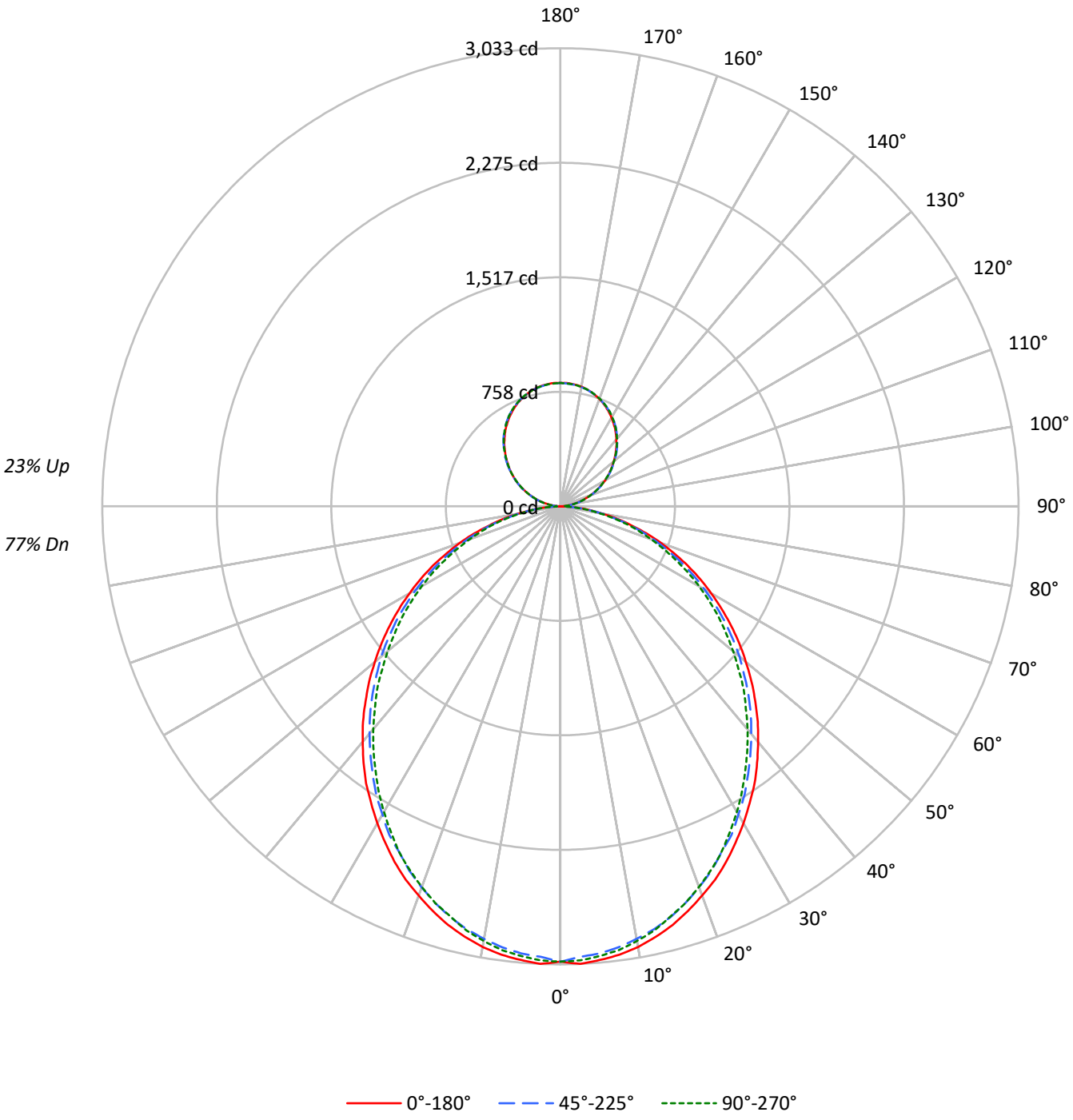
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			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	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77
1	104	99	95	92	99	95	91	88	86	84	81	79	77	75	72	70	68	65
2	95	87	80	75	90	83	77	72	76	71	67	69	66	62	63	60	58	54
3	86	76	69	63	82	73	66	61	67	61	57	61	57	53	56	52	49	46
4	79	68	59	53	75	65	57	52	60	53	48	55	50	45	50	46	42	40
5	73	61	52	46	69	58	50	44	53	47	42	49	44	39	45	41	37	34
6	67	55	46	40	64	52	45	39	48	42	37	45	39	35	41	36	33	30
7	62	49	41	35	59	48	40	34	44	37	33	41	35	31	37	33	29	27
8	58	45	37	31	55	43	36	31	40	34	29	37	32	28	34	30	26	24
9	54	41	33	28	52	40	32	27	37	31	26	34	29	25	32	27	24	22
10	51	38	30	25	48	37	30	25	34	28	24	32	26	23	30	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3493	3493	3493
5°	3497	3442	3465
10°	3467	3393	3416
15°	3414	3334	3341
20°	3344	3254	3264
25°	3274	3159	3176
30°	3186	3070	3063
35°	3103	2966	2945
40°	3001	2861	2832
45°	2899	2755	2716
50°	2788	2643	2582
55°	2671	2515	2459
60°	2539	2362	2317
65°	2394	2204	2150
70°	2211	2011	1970
75°	1957	1780	1801
80°	1650	1484	1483
85°	1170	982	962

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2899 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.8	2.9
10°-20°	798.5	8.0
20°-30°	1173.4	11.8
30°-40°	1362.9	13.7
40°-50°	1361.2	13.7
50°-60°	1186.9	11.9
60°-70°	877.4	8.8
70°-80°	496.4	5.0
80°-90°	133.3	1.3
90°-100°	50.6	0.5
100°-110°	160.6	1.6
110°-120°	274.9	2.8
120°-130°	361.5	3.6
130°-140°	405.7	4.1
140°-150°	397.9	4.0
150°-160°	333.8	3.4
160°-170°	221.3	2.2
170°-180°	77.4	0.8
0°-30°	2255.7	22.7
0°-40°	3618.6	36.3
0°-60°	6166.7	61.9
0°-90°	7673.9	77.1
90°-120°	486.0	4.9
90°-150°	1651.1	16.6
90°-180°	2284.0	22.9
0°-180°	9957.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3015	3015	3015	3015	3015	
5°	3015	3004	2972	2995	2989	286
15°	2870	2853	2815	2827	2812	808
25°	2598	2575	2526	2531	2526	1195
35°	2241	2212	2166	2148	2134	1400
45°	1824	1804	1760	1728	1716	1408
55°	1380	1363	1328	1293	1279	1234
65°	931	913	884	858	844	920
75°	487	481	467	449	455	520
85°	119	116	113	104	102	132
90°	1	9	24	23	23	9
95°	36	43	44	44	43	40
105°	148	150	152	153	153	156
115°	276	280	278	278	276	273
125°	401	407	405	403	402	358
135°	519	526	528	527	525	401
145°	630	635	639	640	637	394
155°	720	722	724	728	726	332
165°	784	783	783	788	784	221
175°	816	814	812	817	813	77
180°	817	817	817	817	817	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	*3015.1*	3015.1	3015.1	3015.1	3015.1
2.5°	*3032.7*	*3018.2*	*2986.3*	*3015.1*	*3009.6*
5°	*3015.1*	3003.8	2971.8	2994.9	2989.3
7.5°	*2994.9*	2977.7	2945.6	2969.1	2963.2
10°	*2963.2*	2942.9	2908.1	2931.2	2922.6
12.5°	*2919.5*	2902.3	2867.6	2881.9	2876.2
15°	*2870.3*	2853.1	2815.2	2826.9	2812.4
17.5°	*2809.3*	2792.1	2754.3	2768.8	2754.3
20°	*2742.6*	2725.4	2684.8	2693.4	2682.0
22.5°	*2676.2*	2650.1	2612.2	2612.2	2606.3
25°	*2597.7*	2574.6	2525.5	2531.0	2525.5
27.5°	*2510.7*	2490.4	2452.9	2444.3	2429.8
30°	*2424.0*	2400.5	2357.2	2348.5	2336.9
32.5°	*2331.1*	2313.8	2267.4	2249.9	2238.2
35°	*2241.3*	2212.3	2165.8	2148.4	2133.9
37.5°	*2139.8*	2113.6	2067.1	2046.9	2032.4
40°	*2035.4*	2012.1	1965.6	1939.7	1928.1
42.5°	*1933.9*	1910.6	1864.4	1835.2	1818.0
45°	*1823.8*	1803.5	1759.8	1728.1	1716.5
47.5°	*1716.5*	1696.2	1649.7	1617.7	1600.5
50°	*1603.3*	1588.8	1548.2	1507.6	1493.1
52.5°	*1493.1*	1472.8	1435.3	1403.3	1383.0
55°	*1380.3*	1362.7	1327.9	1293.2	1278.8
57.5°	*1267.0*	1252.6	1214.8	1180.0	1168.3
60°	*1153.8*	1142.5	1101.8	1069.9	1061.3
62.5°	*1043.7*	1023.4	994.5	965.6	953.9
65°	*930.8*	913.3	884.3	858.2	843.8
67.5°	*814.8*	800.1	774.2	754.0	742.3
70°	*707.5*	695.8	669.7	649.4	638.0
72.5°	*597.4*	585.7	571.2	551.0	542.3
75°	*487.0*	481.4	466.7	449.4	455.3
77.5°	*388.5*	376.9	371.0	362.4	353.8
80°	*290.1*	287.0	281.1	272.5	266.7
82.5°	*197.2*	197.2	194.4	182.7	182.7
85°	*118.7*	116.0	113.2	104.3	101.5
87.5°	*52.3*	46.4	40.6	32.0	28.9
90°	*0.8*	8.9	24.1	22.6	23.4
92.5°	*15.2*	20.7	21.4	22.1	22.1
95°	*36.0*	42.9	44.1	44.1	42.9
97.5°	*59.8*	66.2	69.0	69.0	69.0
100°	*87.4*	93.1	95.1	95.1	94.4
102.5°	*116.5*	120.7	123.4	124.2	123.4
105°	*148.3*	150.2	151.7	152.9	152.9
107.5°	*179.8*	182.7	182.7	183.2	179.8
110°	*210.3*	214.3	214.3	214.3	212.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	*243.3*	247.5	246.8	244.8	243.3
115°	*275.9*	279.7	278.5	277.8	275.9
117.5°	*308.1*	313.5	310.0	308.1	306.1
120°	*340.6*	346.0	340.6	340.6	338.4
122.5°	*370.1*	377.0	373.6	371.6	370.1
125°	*401.2*	407.3	405.4	403.1	402.4
127.5°	*431.4*	439.1	436.4	433.4	431.4
130°	*459.8*	468.6	467.4	466.0	463.2
132.5°	*491.5*	498.4	498.9	495.5	493.5
135°	*518.9*	526.5	528.0	527.3	525.3
137.5°	*549.4*	555.6	556.8	556.4	553.4
140°	*576.3*	582.5	585.9	585.9	583.2
142.5°	*603.9*	610.0	612.0	612.8	610.0
145°	*630.0*	634.9	638.9	639.5	636.9
147.5°	*653.4*	659.5	662.5	663.7	661.0
150°	*677.5*	681.7	684.4	686.6	684.4
152.5°	*699.0*	703.1	706.5	709.3	706.5
155°	*720.4*	722.3	724.5	728.0	725.8
157.5°	*738.8*	740.3	741.6	746.5	743.0
160°	*755.4*	756.8	757.6	761.7	758.8
162.5°	*770.6*	770.6	771.4	776.0	772.6
165°	*783.7*	782.9	782.9	787.8	784.4
167.5°	*795.5*	793.2	793.2	798.1	794.7
170°	*804.3*	802.4	801.7	806.6	802.4
172.5°	*810.5*	808.6	807.8	812.7	808.6
175°	*815.5*	813.5	812.0	816.9	812.7
177.5°	*818.1*	816.1	814.7	818.9	814.7
180°	*816.9*	816.9	816.9	816.9	816.9

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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	13.77	14.94	14.46	15.65	16.47	13.34	14.51	14.03	15.22	16.04
	3H	15.45	16.50	16.14	17.21	18.07	14.98	16.03	15.68	16.74	17.60
	4H	16.04	17.04	16.76	17.76	18.63	15.57	16.57	16.29	17.29	18.16
	6H	16.45	17.37	17.18	18.10	18.99	15.98	16.90	16.71	17.63	18.52
	8H	16.56	17.44	17.30	18.19	19.08	16.09	16.97	16.83	17.72	18.61
	12H	16.62	17.45	17.37	18.20	19.11	16.14	16.98	16.89	17.73	18.64
4H	2H	14.27	15.26	14.99	15.98	16.85	13.92	14.92	14.64	15.64	16.51
	3H	16.15	16.98	16.88	17.74	18.63	15.76	16.59	16.49	17.35	18.24
	4H	16.87	17.63	17.62	18.39	19.30	16.47	17.22	17.22	17.99	18.90
	6H	17.40	18.05	18.16	18.84	19.76	16.99	17.65	17.76	18.43	19.36
	8H	17.55	18.16	18.32	18.94	19.88	17.14	17.76	17.91	18.54	19.47
	12H	17.63	18.19	18.43	18.99	19.93	17.22	17.77	18.01	18.57	19.52
8H	4H	17.09	17.70	17.86	18.48	19.42	16.73	17.34	17.50	18.13	19.06
	6H	17.73	18.23	18.53	19.06	20.00	17.37	17.87	18.17	18.70	19.64
	8H	17.94	18.40	18.76	19.22	20.17	17.58	18.03	18.39	18.85	19.81
	12H	18.08	18.48	18.90	19.30	20.31	17.70	18.10	18.52	18.92	19.93
12H	4H	17.09	17.64	17.88	18.45	19.39	16.74	17.29	17.53	18.10	19.04
	6H	17.76	18.21	18.57	19.03	19.99	17.41	17.86	18.22	18.68	19.64
	8H	18.01	18.41	18.82	19.22	20.23	17.65	18.05	18.47	18.87	19.88

END OF REPORT